

ICOP PRO HD HVR USER GUIDE

**SAFETY
VISION**®

Important Notices

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Main Overview

The ICOP PRO HD system is comprised of several advanced pieces of hardware that provide the complete law enforcement solution:

Hybrid Video Recorder (HVR)

The heart of the system, the HVR contains video storage and provides a convenient status LCD display.

Touch Screen Monitor

Replacing or augmenting a mobile data terminal (MDT), the Touch Screen Monitor provides a 4.3 inch touch screen display to review recorded video and provides convenient controls to start and stop recordings.

ICP Wireless Mic

Rugged remote microphones record sound and start and stop recordings while an officer is away from the vehicle.

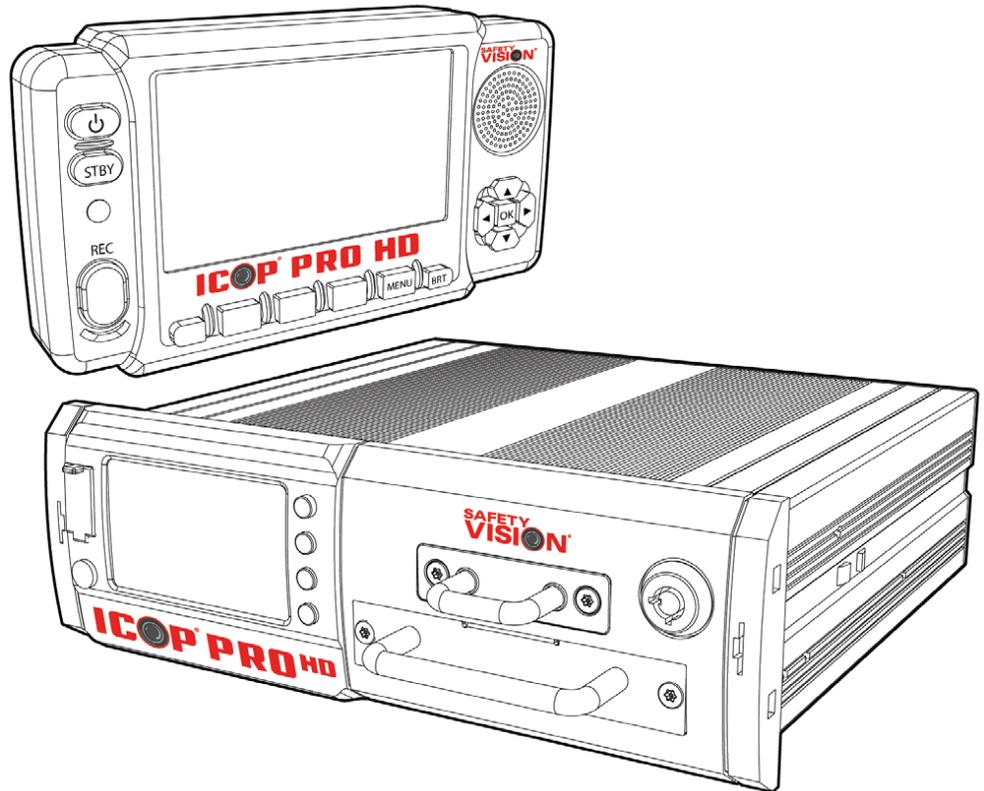
HD Windshield Camera

The HD Windshield camera faces out of the windshield and has several zoom options.

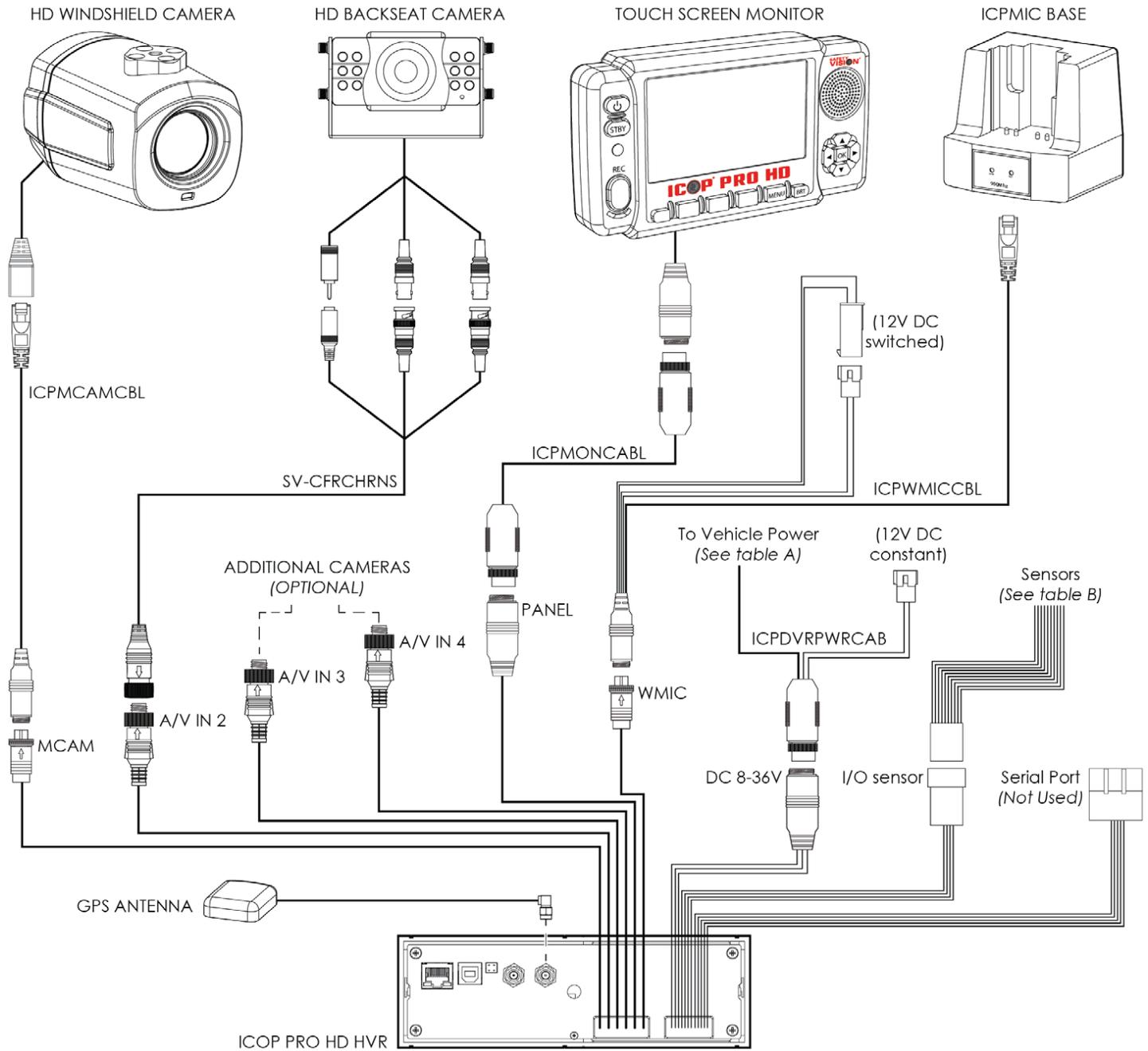
HD Backseat Camera

The HD Backseat camera records video and audio from inside the vehicle's rear cabin, and utilizes IR illuminators for low light conditions.

Important Notice: *Proper maintenance procedures for digital media require that recorded data be reviewed on a regular basis to ensure the HVR is operating correctly. Consult with your fleet or vehicle maintenance manager to implement a regular data review policy that fits with your facility routines to ensure data integrity.*



Main Wiring Diagram



| Table A | |
|---------|-----------------|
| Color | To |
| Red | +12V Constant |
| Yellow | +12V Switch IGN |
| Black | Vehicle GND |

| Table B | | | |
|---------|-------------|----------|-------------|
| Sensor | Description | Sensor | Description |
| 1 INPUT | SENSOR 1 | 6 INPUT | SENSOR 6 |
| 2 INPUT | SENSOR 2 | 7 INPUT | NOT USED |
| 3 INPUT | SENSOR 3 | 8 INPUT | NOT USED |
| 4 INPUT | SENSOR 4 | 1 OUTPUT | NOT USED |
| 5 INPUT | SENSOR 5 | 2 OUTPUT | NOT USED |

ICOP PRO HD Hybrid Video Recorder

Installation

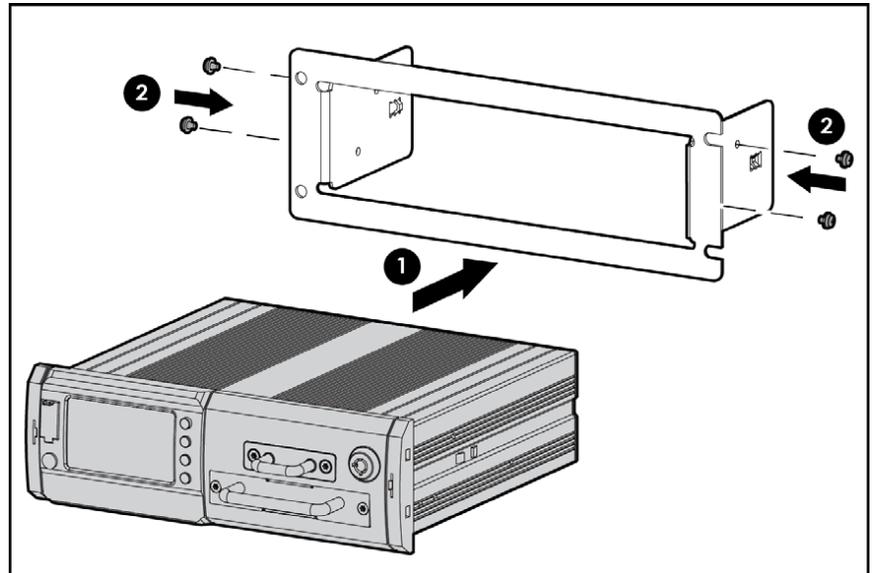
Console Mount

The ICOP PRO HD HVR can be installed in any standard console with an available single DIN slot.

1. Thread the HVR cable pigtails through the console mount and slide it up from the back as shown.

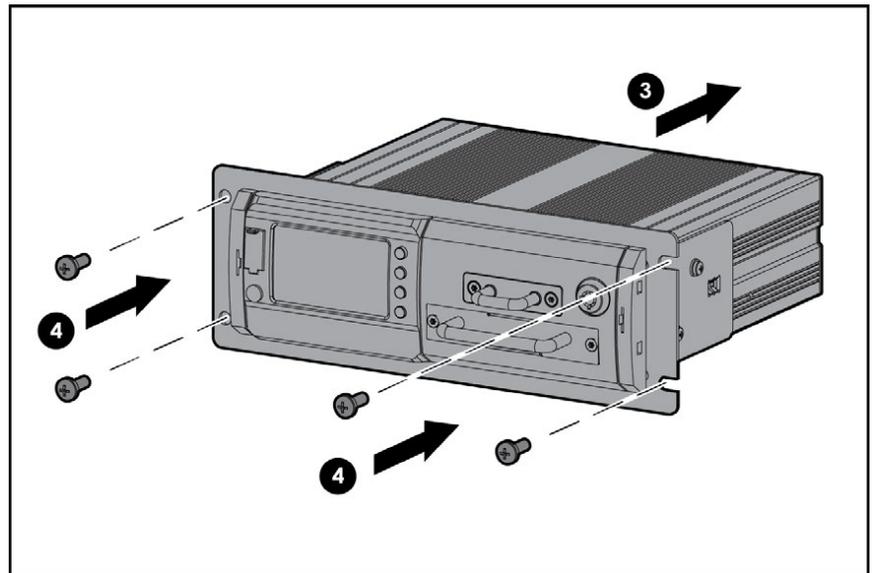
Do not attempt to remove the HVR faceplate.

2. Secure the mount with the two supplied Phillips head screws, one on each side.
3. Make all necessary wire connections.
4. Slide the HVR into the DIN slot and secure the mount with four appropriate screws.



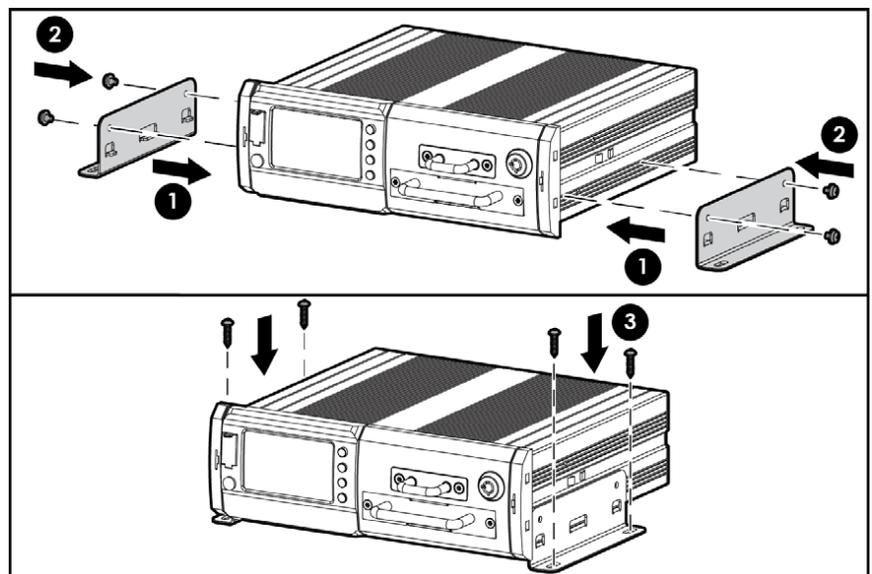
Flat Mount

1. Place the supplied L-brackets on each side of the HVR, oriented up or down, depending on the intended installation.
2. Secure the L-brackets to the side of the HVR with two supplied Phillips head screws each.
3. Secure the HVR assembly to a flat surface with self-tapping screws or rivets.

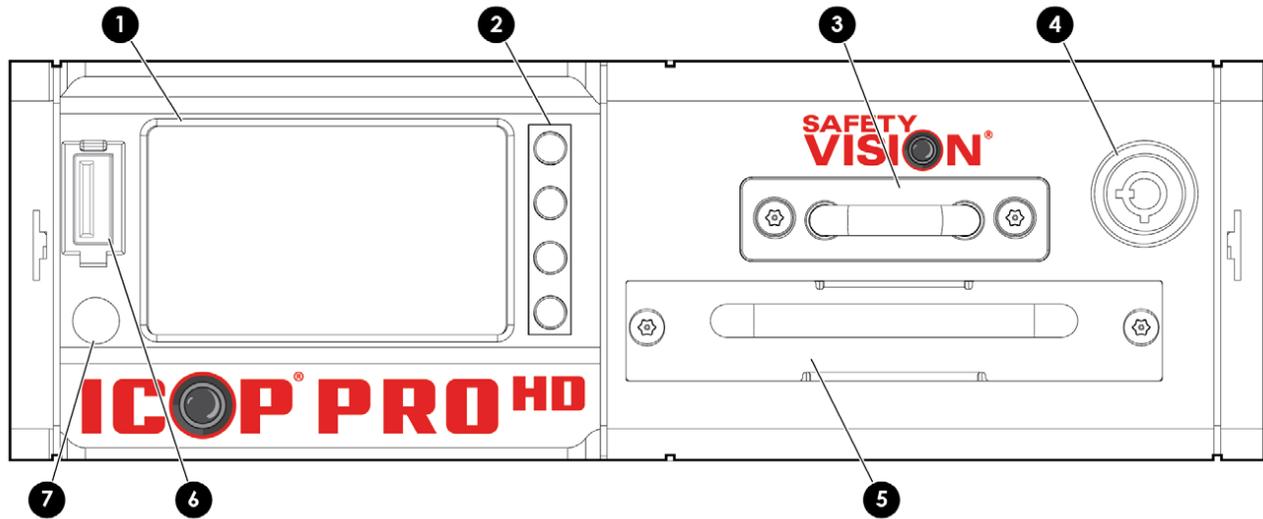


Ensure a minimum of 1/2 inch clearance at the rear of the unit for the fan to provide adequate cooling.

Ensure that the front panel of the HVR remains accessible and there is a minimum 2.5 inches of clearance for cables. Do not install the HVR in an area of the vehicle cabin that could interfere with the safe operation of the vehicle.



Components



1 - Status LCD The Status LCD provides the system date and time, health status, and remaining storage available in a convenient display.

2 - Status LCD Buttons The Status LCD buttons turn the display light on and off, cycle the data displayed, and other functions (see table on page 8)

3 - Removable SD Card Canister Includes both the primary and mirror SD cards in a secure container.

4 - Lock The Lock secures the storage media devices and turns the ICOP PRO HD HVR on and off.

5 - Removable Hard Drive The solid state drive (SSD) provides the main storage for recorded data.

6 - IR Remote Sensor The IR Remote Sensor receives signals from the HVR Remote Control.

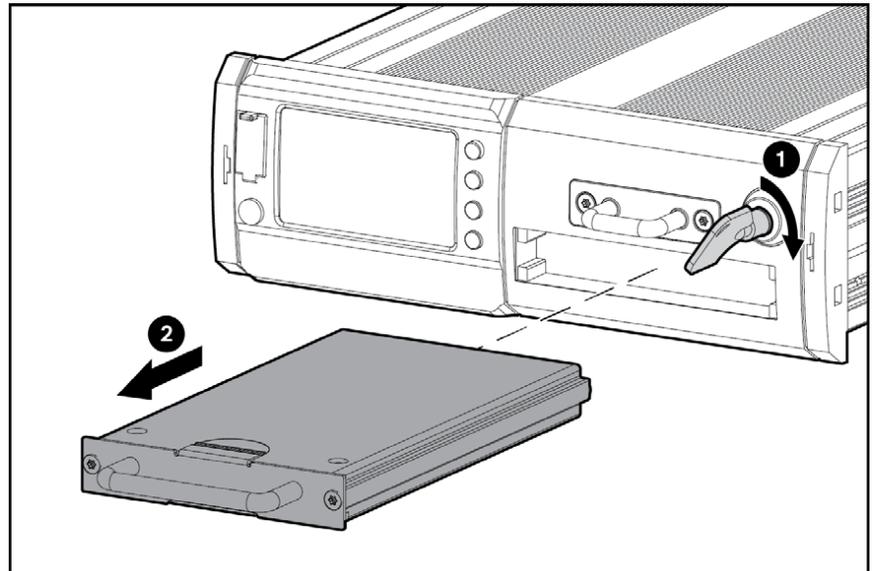
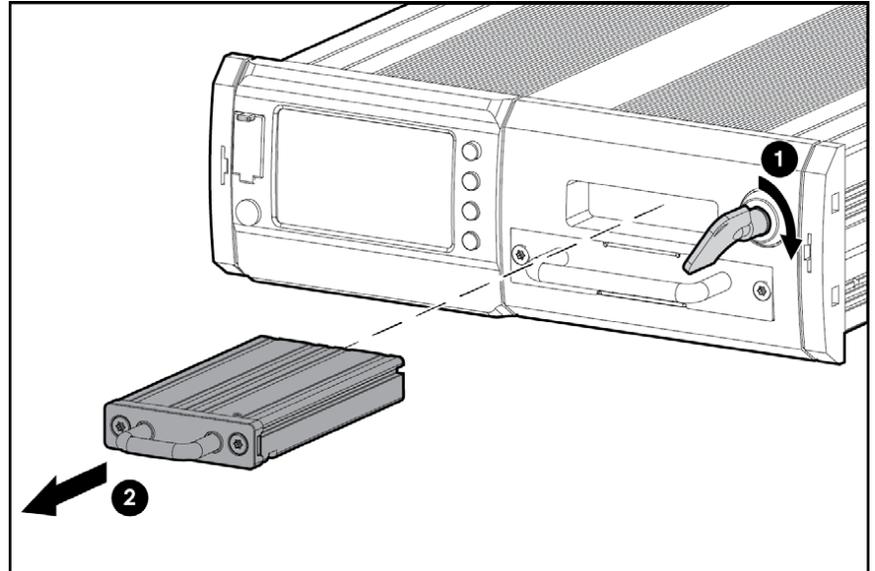
7 - USB Port The USB port provides access to several ICOP PRO HD features such as USB dongle log in, downloading video clips, uploading configurations, and more.

NOTE: *USB port is not to be used to change external devices.*

Storage Media

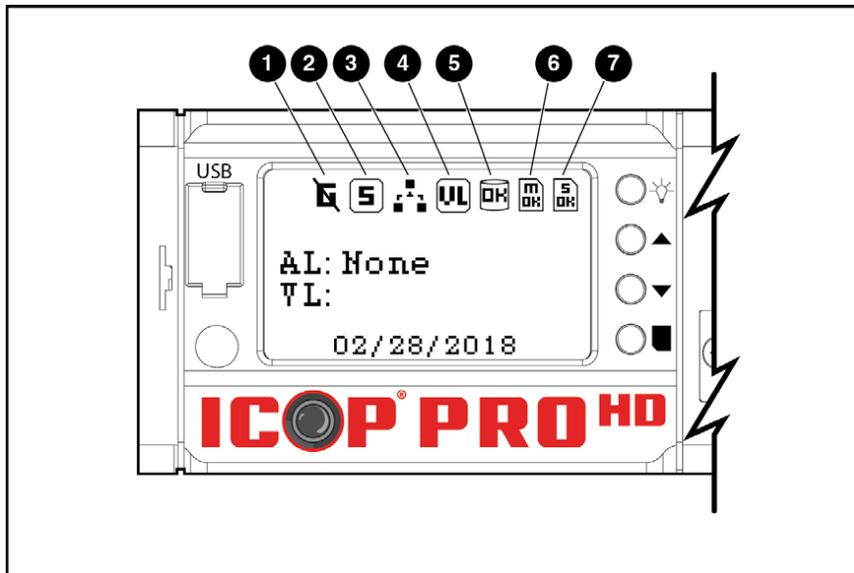
To access the SD card(s) or hard drive:

1. Insert the key into the lock and turn it clockwise.
Unlocking the lock powers the HVR off.
2. Pull storage canister straight out.
3. When finished, replace the storage media back into recorder.
4. Turn the key in the lock counter-clockwise.
Locking the lock powers the HVR on.



Status LCD

1. GPS
2. Record Status
3. Server Connection Status
4. Video Loss
5. Hard Disk Status
6. Main SD Status
7. Mirror SD Status



| ICON TYPE | ICON | DESCRIPTION |
|--------------------------|------|------------------------------|
| GPS | | GPS signal not acquired |
| | | GPS signal acquired |
| Hard Disk Status | | Hard disk error |
| | | Hard disk full |
| | | No hard disk |
| | | Hard disk OK |
| | | Hard disk not formatted |
| Main SD Status | | Main SD card error |
| | | Main SD card full |
| | | Main SD card not installed |
| | | Main SD card OK |
| | | Main SD card not formatted |
| Mirror SD Status | | Mirror SD card error |
| | | Mirror SD card full |
| | | Mirror SD card not installed |
| | | Mirror SD card OK |
| | | Mirror SD card not format |
| Record Status | | Recording |
| | | Recording stopped |
| Server Connection Status | | Not connected to the server |
| | | Connected to the server |
| Video Loss | | Video Loss |

Front Panel Buttons

| ICON | DESCRIPTION |
|------|---|
| | LCD backlight control |
| | Go to previous page |
| | Go to next page |
| | Press once: Begin export data to USB drive Press and hold for 2 seconds: Administrator login <i>When no USB drive is present</i> Press once: to mute backseat camera audio |

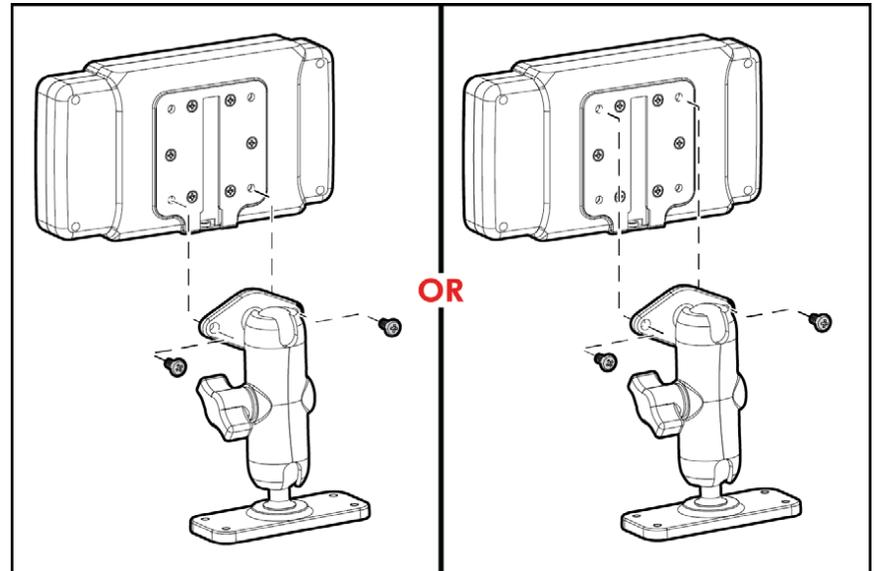
ICOP PRO HD Touch Screen Monitor

Installation

The Touch Screen Monitor can be mounted by three different means:

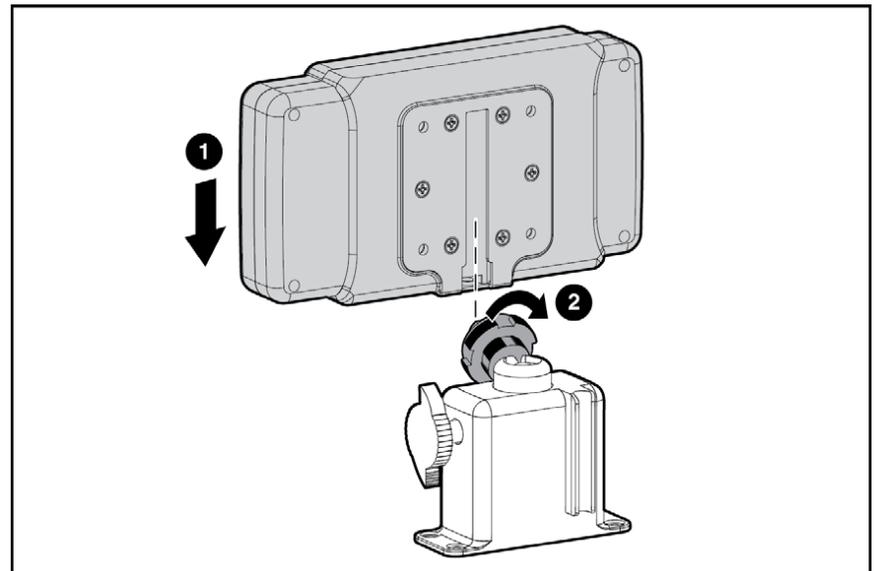
RAM Mount

Attach the RAM mount to the back of the touch screen monitor with the two provided Phillips head screws horizontally in either the high or low position.



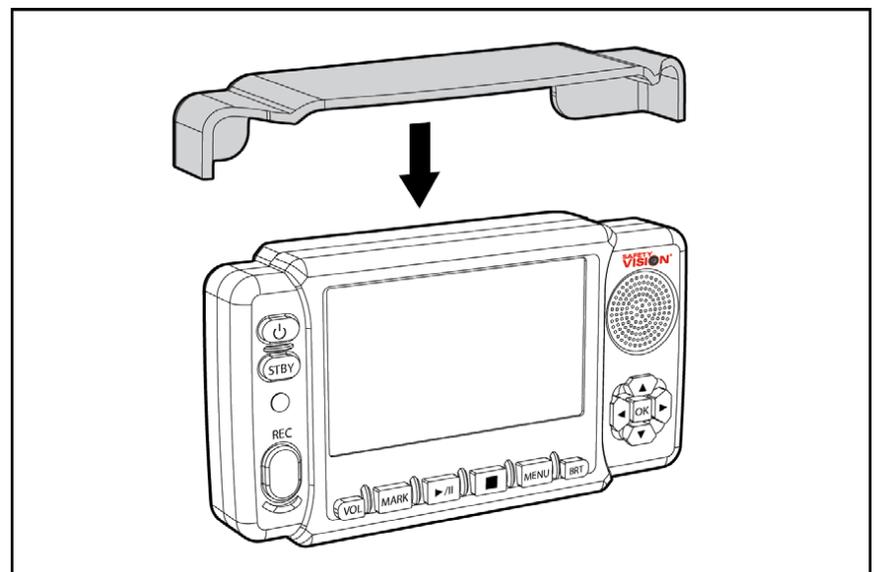
SV LCD Mount

Slide the touch screen monitor onto the LCD mount and twist the locking ring clockwise to secure the mount.

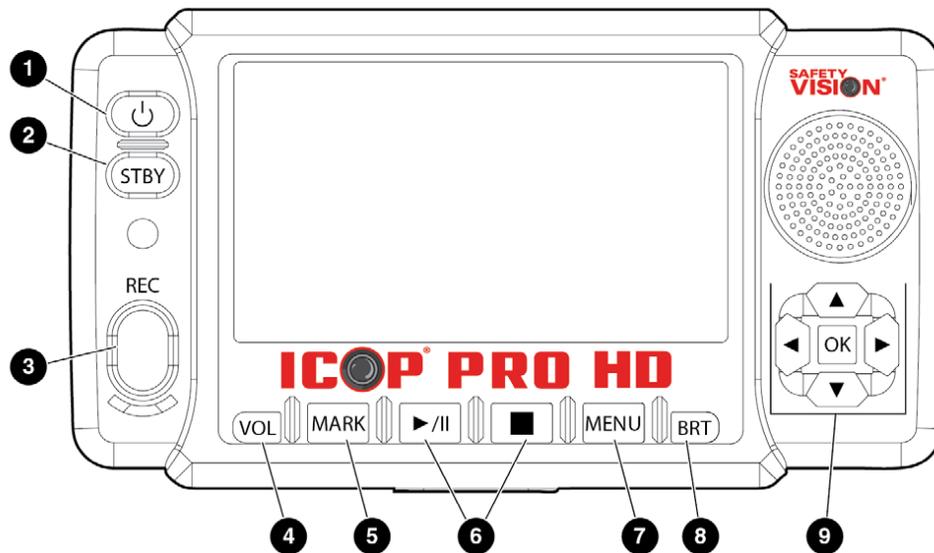


Visor

Snap the visor into place as shown to shield the touch screen monitor display from glare.



Components



1 - Power Button Press the Power button to turn the touch screen monitor on or off. The Power button turns off both the display and all of the controls.

The Power button does NOT turn off the HVR.

2 - Standby Button Press the Standby button to turn off only the monitor's display. All controls are still active; press any control to automatically turn the display on again.

3 - Record Button Press the Record button to manually initiate a recording. The Record button's color changes depending on status:

- **Green:** Standby
- **Red:** Recording
- **Flashing Red:** Error (storage full or not present)

4 - Volume Button Press the Volume button to cycle through four levels of volume, from low to high, for the touch screen monitor's speaker.

5 - Mark Button Press the Mark button while recording, to create a digital flag that can be easily referenced or returned to.

6 - Playback Control Buttons Press the Play/Pause and Stop buttons to play, pause, or stop video playback, respectively. The Stop button also stops a recording.

7 - Menu Button Press the Menu button to access the video playback and configuration menus. You must be logged in to perform this action.

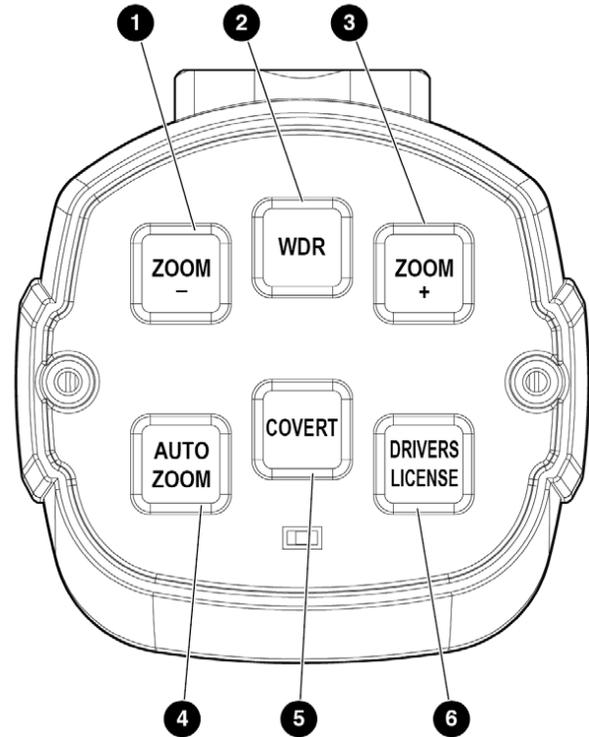
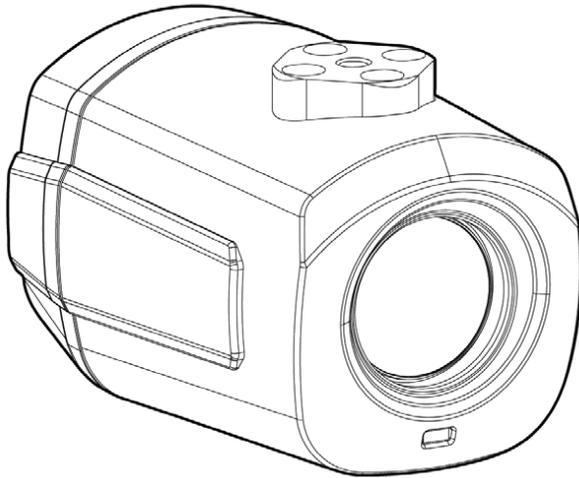
8 - Brightness Button Press the Brightness button to cycle through four levels of brightness from low to high, for the touch screen monitor's display only.

9 - Menu Navigation Buttons When not using the touch screen display, use the menu navigation keys to make and confirm inputs in the video playback and configuration menus. The menu navigation buttons also controls the live display.

While the touch screen monitor displays the live view, press the Up and Down navigation buttons to cycle between a front and rear combination screen and full screen views of each camera.

While the touch screen monitor displays the live view, press the Right navigation button to display a compass that displays the vehicle's current direction of travel, as well as the time and date. Press the Left navigation button to return to the live view.

ICOP PRO HD Windshield Camera Components



1 - Zoom Adjusts zoom out.

- **Single Press:** Decrease zoom
- **Double Press:** Decrease zoom automatically to original position
- **Press and Hold:** Decrease zoom to desired position

2 - WDR Turn on or off the camera's Wide Dynamic Range. Button will be backlit in Green to indicate WDR is on.

3 - Zoom + Adjusts zoom in.

- **Single Press:** Increase zoom
- **Double Press:** Increase zoom automatically to fully zoomed in position
- **Press and Hold:** Increase zoom to desired position

4 - Auto Zoom Zoom to a preset value for 10 seconds, then return to original position.

- **Single Press:** Perform Auto Zoom
- **Preset Auto Zoom Value:**
 - Adjust Zoom to desired position
 - Press and hold Auto Zoom button

Audible alert sounds to confirm setting

5 - Covert Toggle on/off for keypad backlight

- **Single Press:** Toggle Covert Mode

6 - Driver's License Changes camera to allow close up focus to capture a driver's license held in front of the camera.

- **Single Press:** Button flashes; Driver's License Mode enable for 30 seconds
- **Second Single Press:** Exit Driver's License Mode

ICPMICKIT Microphone Cradle

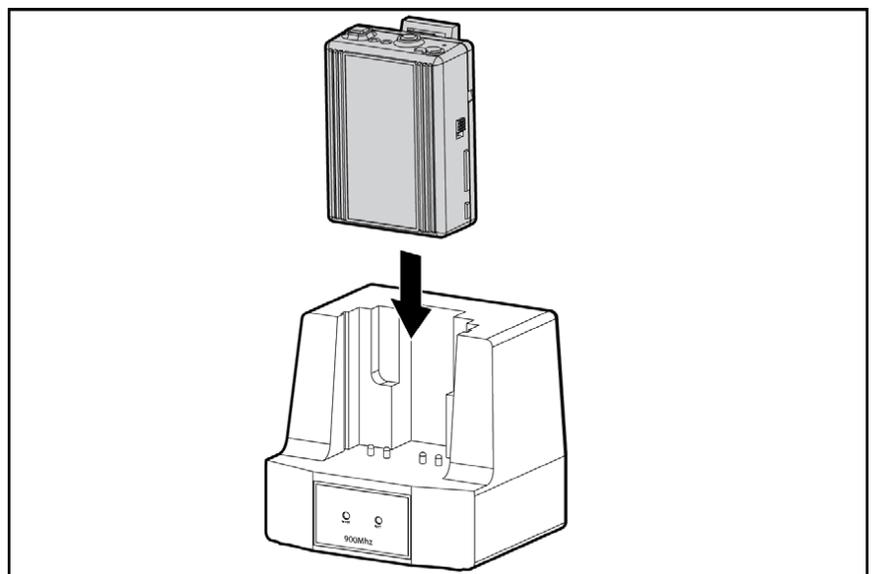
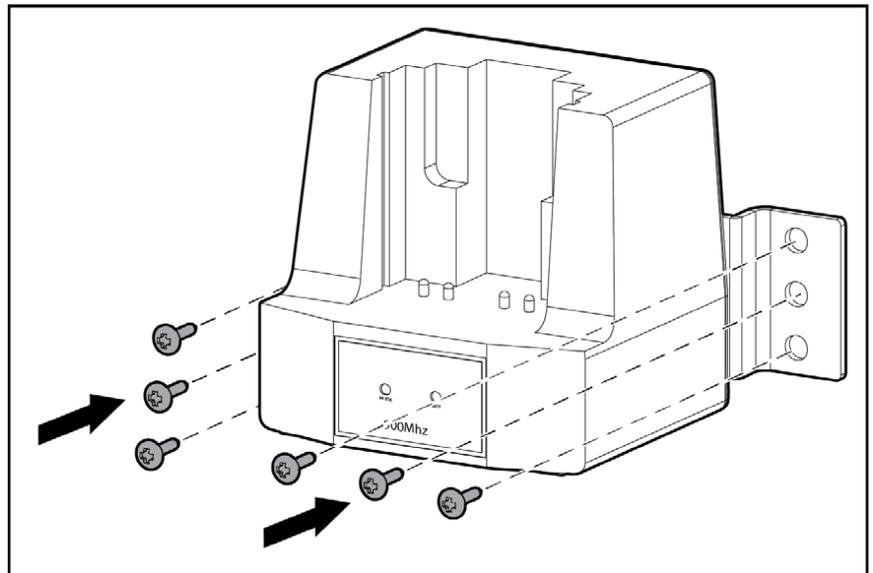
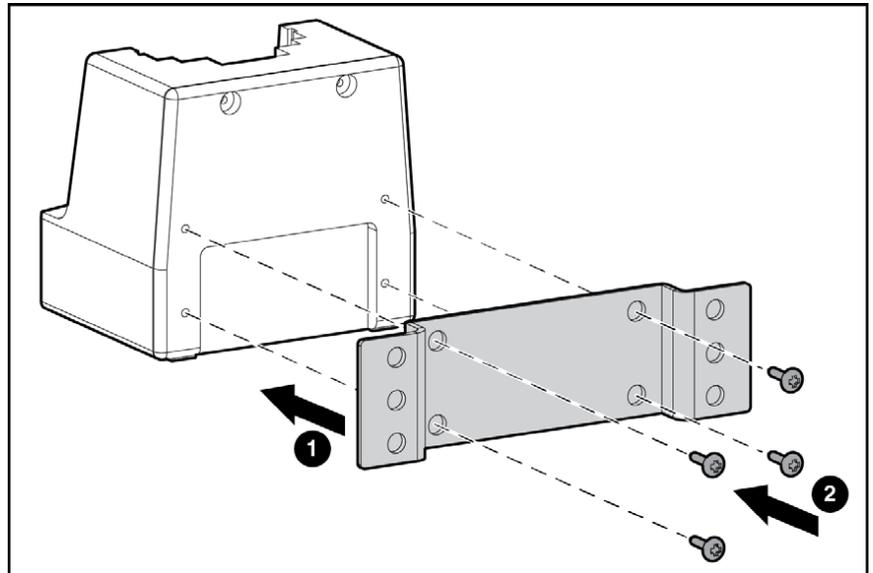
Installation

Use the following procedure to mount the ICPMICKIT Microphone cradle:

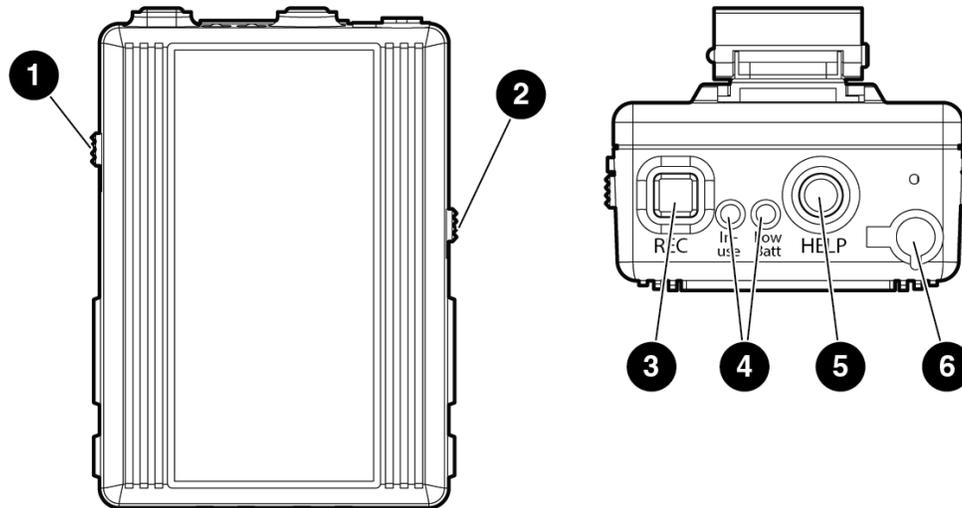
1. Secure the bracket to the rear of the cradle with the four supplied Phillips-head screws as shown.
2. Secure the cradle / bracket assembly to a suitable location inside the vehicle with six supplied Phillips-head screws or other appropriate fasteners.

Note: Do not install the cradle in an area that could interfere with the safe operation of the vehicle.

3. Ensure the Power Switch on the microphone is in the ON position.
4. Place microphone in base as shown. The BATT status LED on the front of the cradle displays red as the microphone charges. A full charge from a new or depleted battery takes approximately four (4) hours. When charging is complete, the BATT status LED displays green.



Components



1 - Beep/Vibration Switch Use the Beep/Vibration Switch to toggle notifications.

- **BEEP:** Audible beeps sound
- **VIB:** Unit is silent, vibrates for notifications
- **OFF:** Disables all sound and vibration notifications, observe status LEDs for unit status

2 - Power Switch Use the Power Switch to turn the microphone on and off.

3 - Record Button Use the Record button to start and stop video recordings:

1. Remove the microphone from the cradle and ensure the power switch is in the ON position.
2. Press the Record button once to begin recording. The In-USE status LED displays green.
3. Press the Record button once more to conclude recording. The In-USE status LED turns off.
4. Replace the microphone in the cradle when not in use or when the battery is low.

4 - Status LEDs The In-USE and Low Batt LEDs display the microphone's current status:

In-USE (green):

- **Solid:** Video and audio is recording
- **Flashing:** Microphone is close to going out of range of the receiver

Low Batt (red):

- **Solid:** Battery is low, return the microphone to the cradle to recharge
- **Flashing:** Voice recording is muted

5 - Mute Button Press the Mute button once during a recording to mute voice recording (*Low Batt status LED flashes red*). Press the Mute button once more to un-mute voice recording.

6 - Ext. Microphone Port Attach an external lapel microphone using a 2.5 mm connector.

ICOP PRO HD Configuration Monitor Log In and Home Screen

Log In

Tap the screen once to display the shortcut bar. Tap the large **Log In Icon** on the right to display the **Log In Window**. The Log In Window also appears if you are logged out and attempt to access Playback or other functions that require logging in.

Tap in the **User name** and **Password** fields to display the onscreen keyboard, and enter your username and password. Then tap **Login**.

The default login is:

*Username: admin
Password: admin*

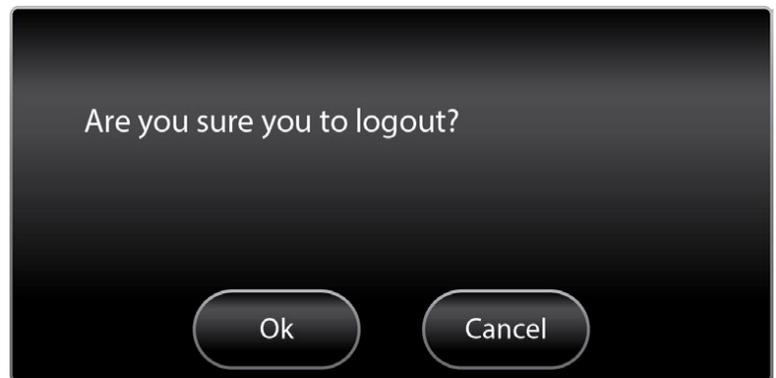
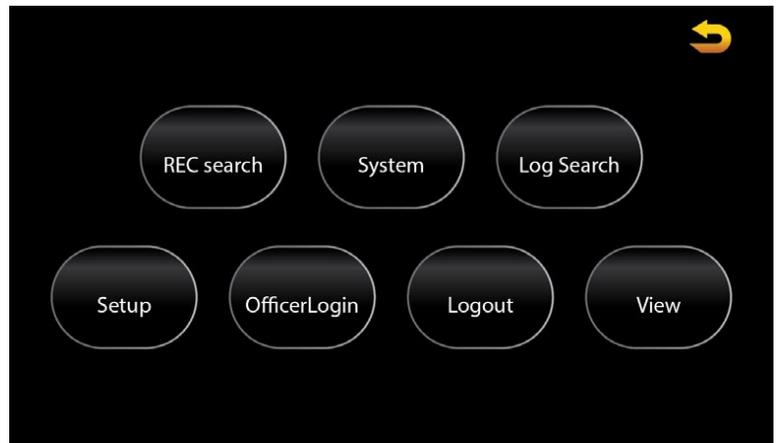
Main Menu

Once logged in, the **Main Menu** is displayed. The Main Menu provides access to the following features:

- **REC (Recording) Search:** Search for and playback previously recorded video
- **System:** View the recorder's system details and current status
- **Log Search:** Search the recorder's log files to view previous actions and events
- **Setup:** View and setup the recorder's configuration
- **Officer Login:** Log in multiple officers simultaneously, if more than one officer is assigned to the vehicle
- **Logout:** Log out of the system
- **View:** Display live camera views

Logout

Tap the **Logout icon** from the Main Menu to log out of the recorder. A prompt is displayed; confirm your action by tapping **OK**. You will have to log in again to review video or other functions that require logging in.



Tap the **Home Icon** in the top left corner to display the Main Menu.



Tap the **Arrow Icon** in the top right corner to return to a previous menu.

Recording Search

On the Main Menu, tap the REC search Icon to search for previously recorded video, review it, and export it.

Calendar

The **Calendar** screen appears. Tap the arrows to scroll through the months and year on the left. On the right, select to search for Main record, Sub record, or Mirror record video.

- **Main record:** video recorded to the primary storage device
- **Sub record:** video recorded by the secondary video stream configured in the Record menu
- **Mirror record:** video recorded to the mirror SD card

Available video appears as colored bars on the calendar.

- **Alarm (red):** video recorded as a result of a configured alarm
- **Locked (yellow):** video determined important and locked from deletion
- **Normal (green):** video recorded not as a result of a configured alarm (continuous recording, etc.)

Select a day on the calendar, then tap the **Next** button to advance to the channel selection screen.

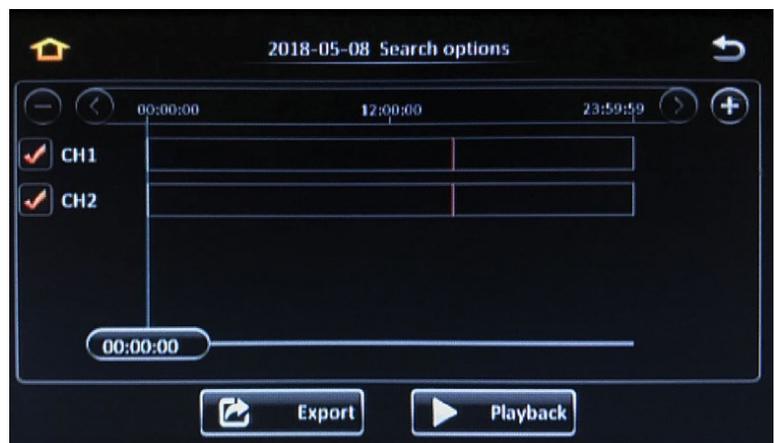
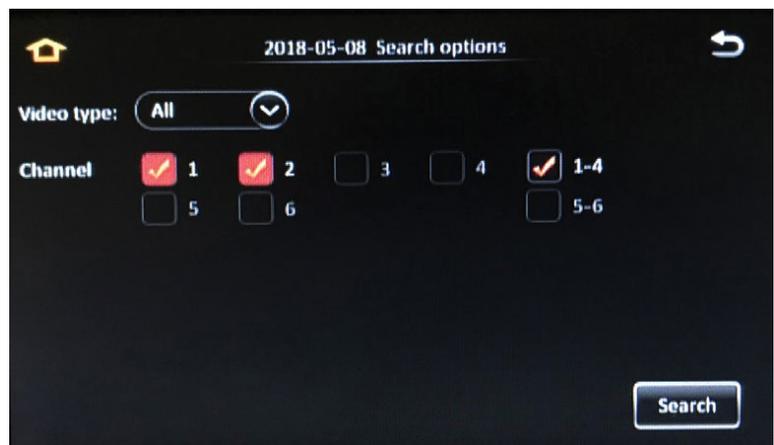
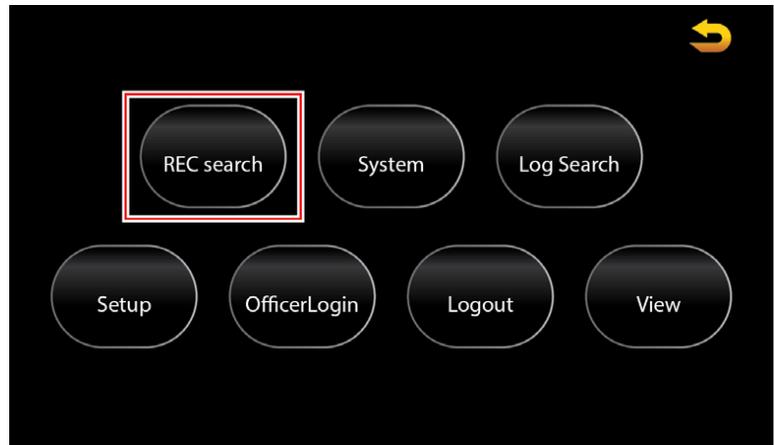
Channels

Select specific channels you want to review by checking its box. You can use the **Video Type** field to select only channels with Normal or Alarm type video. Then tap the **Search** button to advance to the results screen.

Results

The results screen displays available recorded video as colored bars across the 24 hour period of the selected day. The timeline can be adjusted at the top of the screen. Tap the + and - icons to zoom in and out (display a narrower or wider band of time) of the timeline. Tap the < and > icons to move back and forth along the timeline.

Select the channels you want to review by checking them on the left side of the screen, then tap the **Playback** or **Export** buttons to advance to either of those two functions.



Playback

Tapping the **Playback** button on the results screen begins video playback immediately.

You can slide your fingers along the timeline at the top of the screen to quickly advanced to a specific point in the video. Additionally, a specific time can be entered in the **Time Field** in the upper right hand corner of the screen. Tap the **Time Field** to display the onscreen keyboard.

Tap the speaker icons on the left side of the screen to increase volume, decrease volume, or to mute volume.

Tap the **arrow icons** on the right side of the screen to scroll to additional channels if more than four were selected.

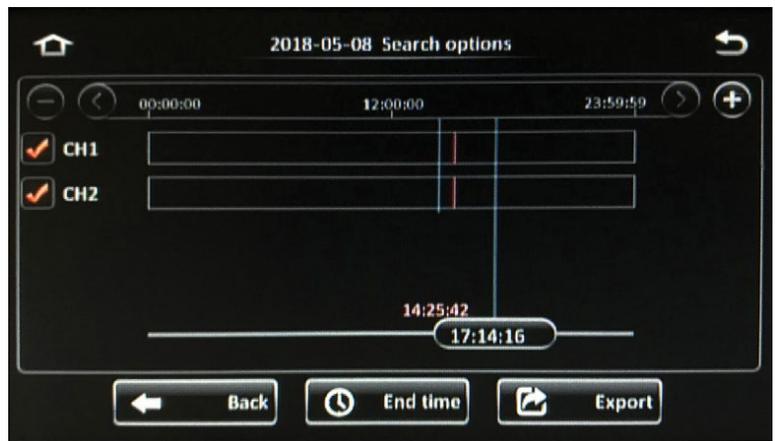
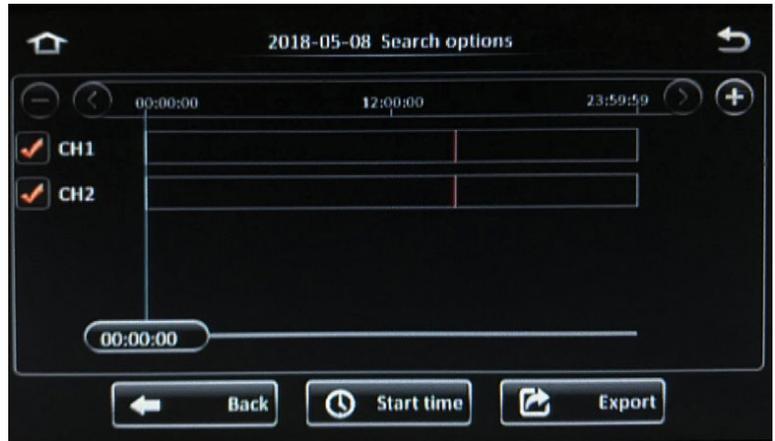
Tap on the **Return icon** in the lower right side of the screen to return to the video search results.



Export

Tapping the **Export** button on the results screen begins the export process. Selected video can be downloaded to a USB flash drive:

1. Insert a USB flash drive into the USB port on the front panel of the recorder.
2. Tap the **Export** button on the results screen
3. Use your finger to drag the marker to where the exported video clip's start time will begin. Additionally, you can also tap in the time field box on the marker line at the bottom of the screen to display an onscreen keypad and enter the start time manually.
4. Then tap the **Start Time** button
A second marker appears
5. Use your finger to drag the marker to where the exported video clip's end time will be.
6. Then tap the **End Time** button
The Export info. bar appears at the bottom of the screen, displaying the exported video clip's length and file size.



7. Tap the **Export** button

The Export prompt window appears on the screen, displaying the exported video clip's length and file size, as well as the capacity of the inserted USB flash drive.

8. Select the desired export file format:

- **Proprietary data:** video is exported in a proprietary format that can only be played back using the DVMS PRO software
- **AVI data:** video is exported in .avi format, which can be played by most commonly available media players

9. Tap **OK**

The video clip is exported automatically

If the amount of video being downloaded exceeds the capacity of the USB flash drive being used, a prompt appears requesting that an additional thumb drive be inserted to conclude the export.

Exported files are saved on the root directory tab of the USB flash drive. Files are titled first by Unit ID, then Alarm Log, then the date recorded.

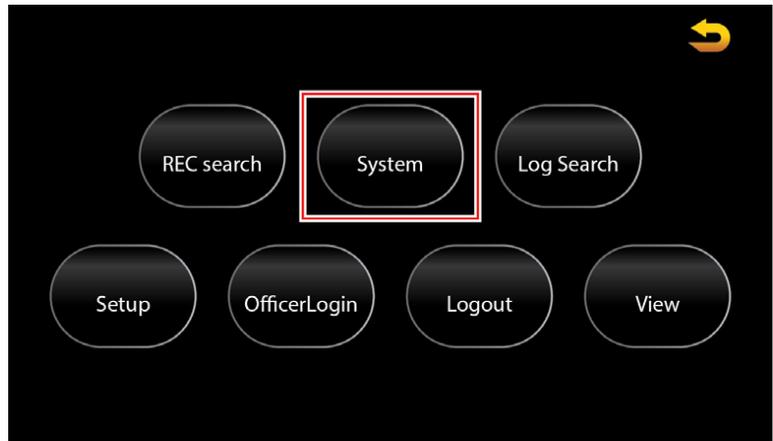


System

Tap the System icon on the Main Menu to view the System menus. System menus mainly provide detailed information regarding the current status of the recorder and the accessories connected to it.

This information can be useful when troubleshooting certain issues. All of the fields in the System menus are for display only and cannot be changed.

Tap the tabs on the left side of the screen to navigate between different menus.



Version Info

The Version Info menu provides information on the firmware version of the recorder in addition to other information:

- **Device Name:** Name of recorder
- **DVMS PRO ID:** Unique numeric ID assigned to the recorder for identification in the DVMS PRO back-end management system
***NOTE:** This will also be used as the Serial No. when adding the ICOP PRO HD vehicle to the DVMS PRO software.*
- **MAC address:** MAC address of the recorder
- **Firmware Version:** Recorder's current firmware version
- **MCU Version:** Firmware version of the recorder's internal MCU
- **CP3/4 Version:** Firmware version of the touch screen monitor

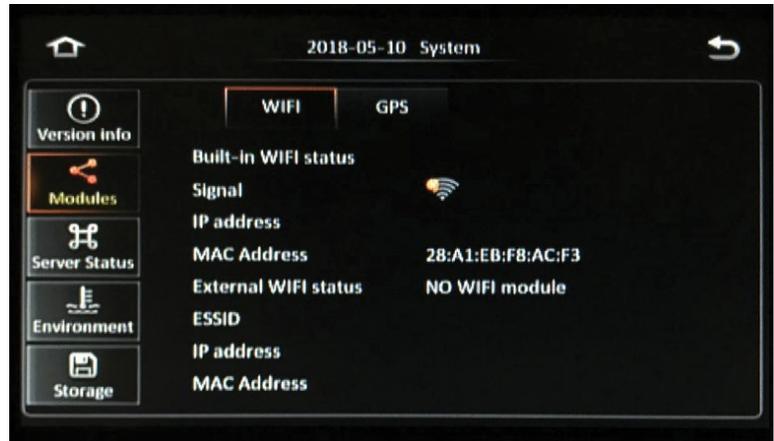


Modules

The Modules menus provide information about the internal/external wireless and GPS modules of the recorder

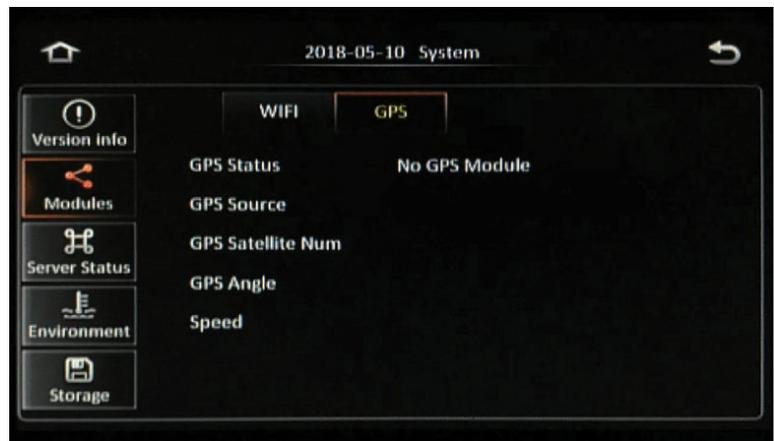
WIFI

- **Built-in WIFI status:** Displays if the internal WiFi module is currently connected to a wireless network
- **Signal:** If the internal WiFi module is connected to a network, the Signal strength will be displayed
- **IP address:** IP address of the internal WiFi module
- **MAC address:** MAC address of the internal WiFi module
- **External WIFI Status:** Displays the status of a connected external WiFi device
- **ESSID:** ESSID of a connected external WiFi device
- **IP address:** IP address of a connected external WiFi device
- **MAC address:** Under development



GPS

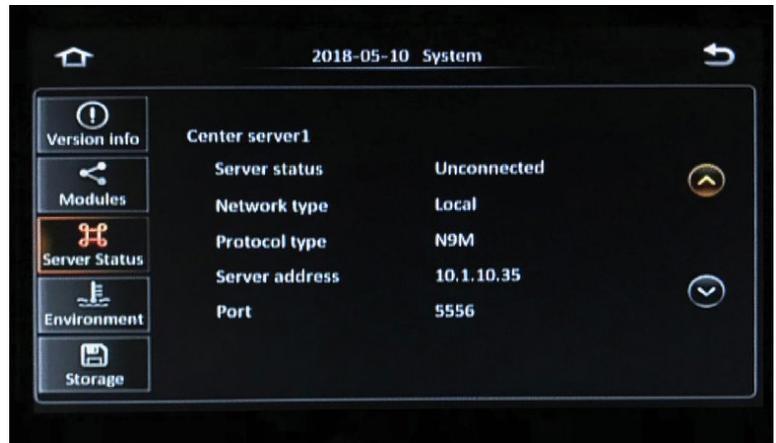
- **GPS Status:** The recorder's current geographic location in exact longitude and latitude
- **GPS Source:** Source of the GPS information (from the internal GPS module or an external GPS module)
- **GPS Satellite Num:** Total number of satellite signals
- **GPS Angle:** Displays the GPS course orientation
- **Speed:** Displays the real-time speed of the vehicle in which the recorder is installed



Server Status

The Server Status menu displays the status of the DVMS PRO server(s) to which the recorder is connected.

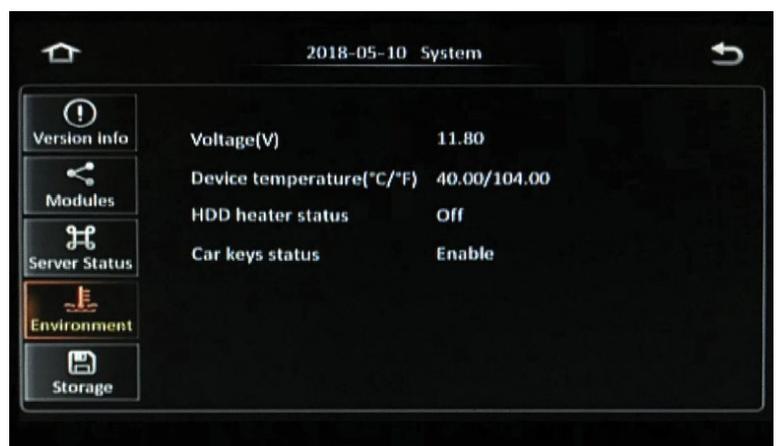
- **Server status:** Connection status
- **Network type:** Type of network used to communicate with the DVMS PRO server
- **Protocol type:** Type of protocol used when communicating with the DVMS PRO server
- **Server address:** IP address of the DVMS PRO server
- **Port:** Port of the DVMS PRO server



Environment

The Environment menu displays current voltage and device temperature readings.

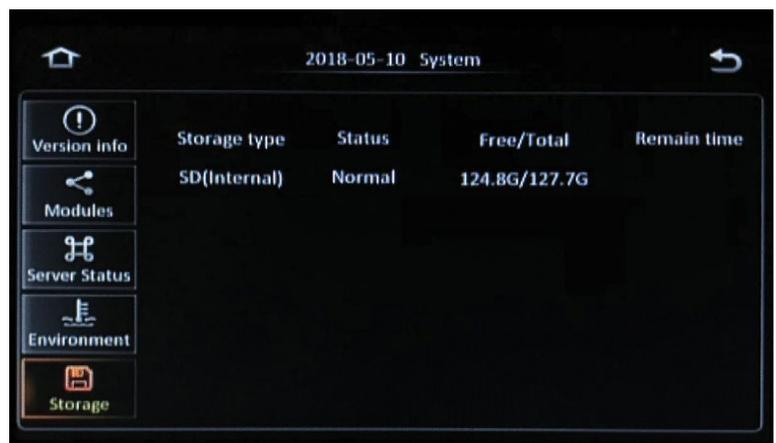
- **Voltage(V):** Voltage (displayed in volts) the recorder is currently receiving
- **Device temperature:** Displays the internal temperature of the recorder in both Celsius and Fahrenheit
- **HDD heater status:** Displays if the internal HDD heater is currently on or off
- **Car keys status:** Ignition on/off status



Storage

The Storage menu displays the status, capacity, and recording time for each data storage device in the recorder.

- **Storage type:** Type of storage device
- **Status:** Displays if the device is currently Recording, is Normal, or a problem has occurred
- **Free/Total:** Displays the ratio of available storage space to the amount of total storage space
- **Remain time:** Displays the amount of video that can be recorded given the remaining storage space available (*event recording mode only*).



Log Search

On the Main Menu, tap the Log Search icon to search for and display a list of current and past events or errors.

Calendar

The Calendar screen appears. Tap the arrows to scroll through the months and year on the left. Days where log files exist include a Green Log Mark.

Tap a day to select it, then tap the **Next** button.

Time and Log Type

The time and log type screen appears. Tap the **Start time** and **End time** fields to display an onscreen keypad to enter a specific start and end time in which you want to search.

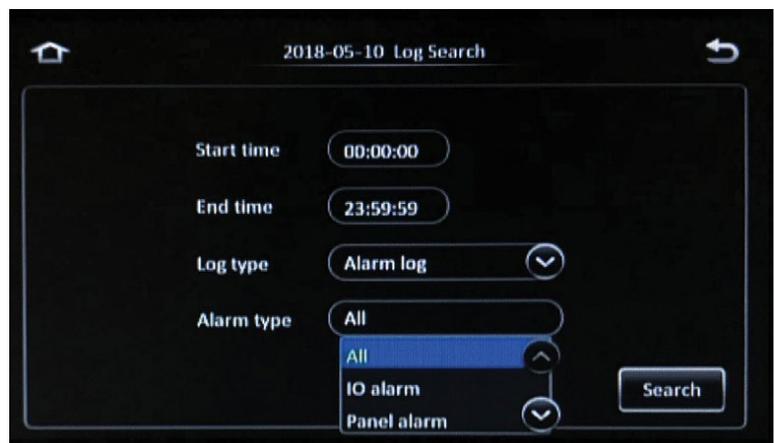
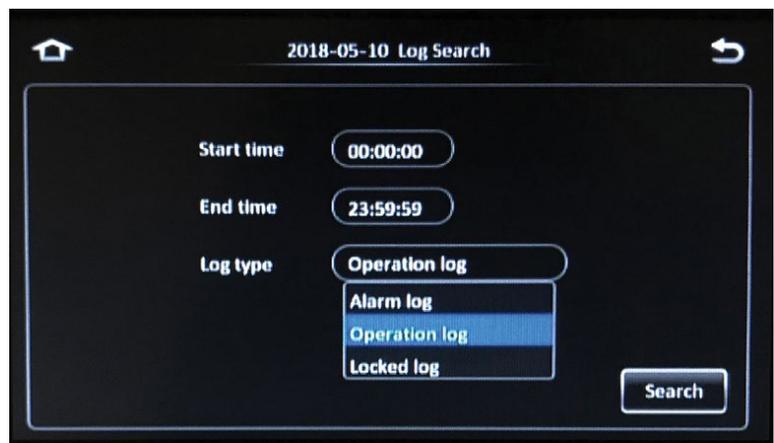
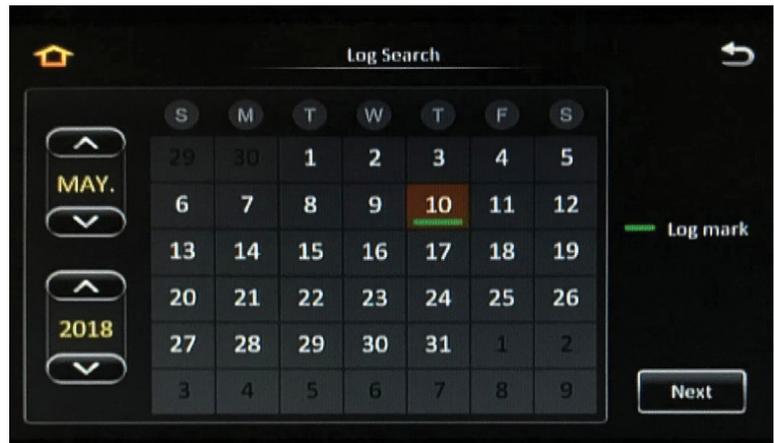
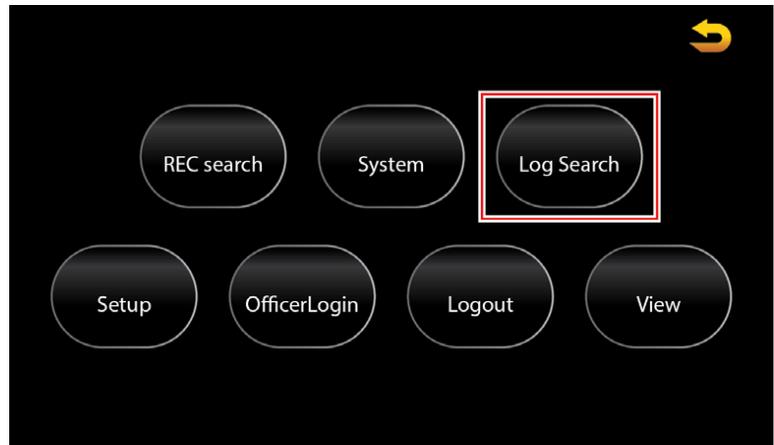
In the **Log type** field, select the type of log to search for:

- **Operational log:** Log of actions performed by users (searching for video, changing configurations, etc.)
- **Locked log:** Log of when video was locked
- **Alarm log:** Log of different types of alarms. After selecting this option, the Alarm Type field appears:

Alarm Type Field options:

- **All:** All alarms
- **IO alarm:** Alarms initiated by a sensor connected to the I/O hub
- **Panel alarm:** The 'Mark' button on the touch screen monitor has been pressed
- **Speed alarm:** The vehicle has exceeded the configured max speed
- **Video loss:** A camera has stopped transmitting a signal
- **Video blind:** A camera may be covered or obscured
- **Motion:** Motion has been detected
- **ACC alarm:** The accelerometer has detected an impact above the configured threshold
- **Electric fence alarm:** The vehicle has deviated from the configured geo fence parameters
- **High Temp alarm:** A temperature sensor has detected heat above the configured threshold
- **Heating-up alarm:** *Under development*

After making these selections, tap the **Search** button.

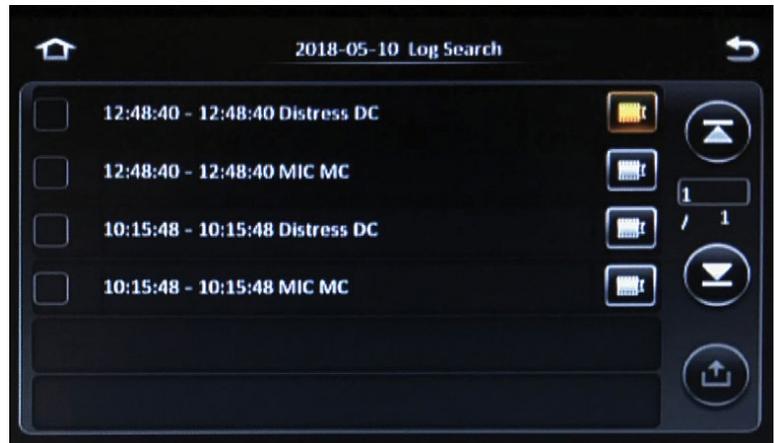


Results

After tapping the Search button, the results of the log search are displayed.

Tap the **up** and **down** arrow icons on the right side of the screen to scroll through the page results. Or, tap the **page number field** to display an onscreen keypad to manually enter a specific page to display.

Tap the **film icon** next to any of the alarm log results to automatically begin video playback of the alarm.



Exporting Log Files

Tapping the **Export** icon in the lower right corner of the screen begins the export process. The selected video can be downloaded to a USB flash drive:

1. Insert a USB flash drive into the USB port on the front panel of the recorder
2. Select any of the alarm log results you want to export video for by tapping in any of the boxes on the left hand side of the screen
3. Then tap the **Export** icon in the lower right corner of the screen.
The Export prompt window appears on the screen, displaying the exported video clip's file size, as well as the capacity of the inserted USB flash drive.
4. Select the desired export file format:
 - **Proprietary data:** video is exported in a proprietary format that can only be played back using the DVMS PRO software
 - **AVI data:** video is exported in .avi format, which can be played by most commonly available media players
5. Tap **OK**
The video clip is exported automatically

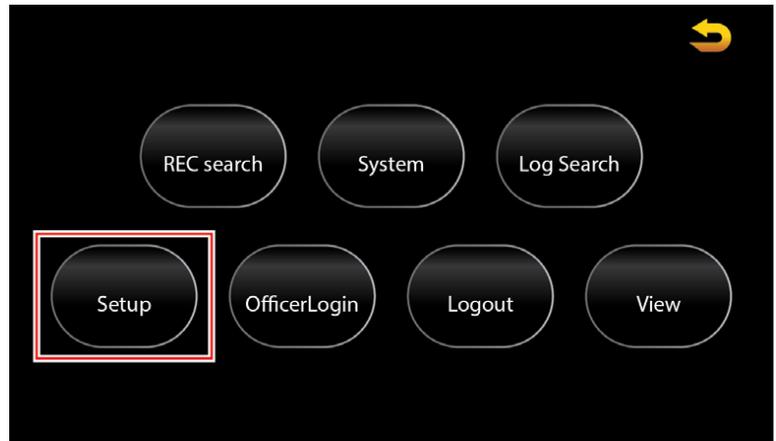


Setup

On the Main Menu, tap the **Setup** icon to view the Setup menus. Setup menus allow configuration of the system.

Navigate the Setup menus by tapping on the icons at the top of the screen. Once in a top menu, tap the tabs on the left of the screen to view the different sub-menus. Some sub-menus contain multiple pages.

After making any entries, tap Save at the bottom of the screen.



Basic Setup

The Basic Setup menu configures basic recorder settings such as the date, time, start up and shutdown parameters, etc.

Basic Info

Device Info

- **DVMS PRO ID:** Unique numeric ID assigned to the recorder for identification in the DVMS PRO backend system; this field is automatically populated

***NOTE:** This will also be used as the Serial No. when adding the ICOP PRO HD vehicle to the DVMS PRO software.*

Vehicle Info

- **Vehicle Num (MDVR WIFI ESSID):** Enter an alphanumeric vehicle fleet number
- NOTE:** This will also be used when adding the ICOP PRO HD vehicle to the DVMS PRO software.*
- **Vehicle Plate:** Enter an alphanumeric vehicle license plate number

Then tap the **Save** button.

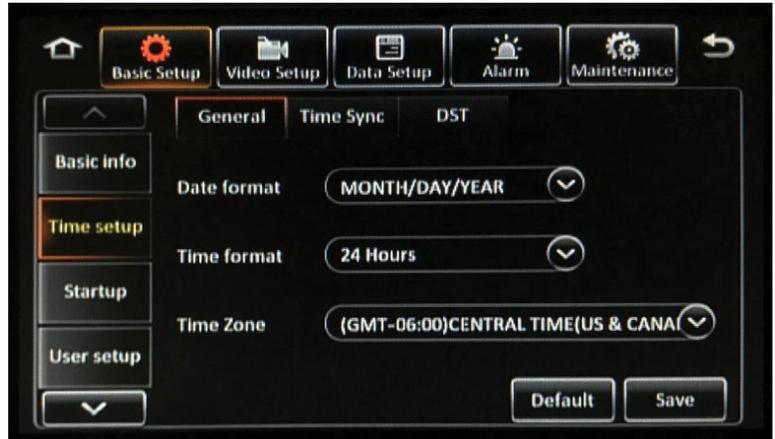


Time Setup

General

- **Date format:** Select from MONTH/DAY/YEAR (MM/DD/YYYY); DAY/MONTH/YEAR (DD/MM/YYYY); or YEAR-MONTH-DAY (YYYY-MM-DD)
- **Time format:** Select 12 or 24 hour time format
- **Time Zone:** Select the appropriate time zone

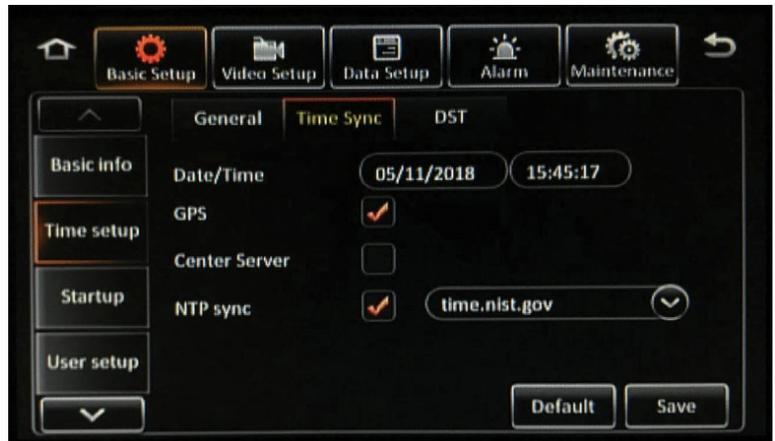
Then tap the **Save** button.



Time Sync

- **Date/Time:** Tap these fields to manually enter the current date and time of the recorder
- **GPS:** Select this option to automatically synchronize the date and time from the GPS signal
- **Center Server:** Select this option to automatically synchronize the date and time to a DVMS PRO server when the recorder connects
- **NTP sync:** Select this option to automatically synchronize the date and time to an official time-keeping website when the recorder has an available internet connection; Select from several predefined websites, or select User-Defined to enter your own

Then tap the **Save** button.



DST

- **Enable:** Select this option to enable Daylight Savings Time (DST) automatic time adjustment
- **Offset:** Select a one or two hour DST adjustment
- **Mode:** Select Week to define the DST period by specific weeks in the calendar; Select Date to manually enter an exact date

Then tap the **Save** button.



Startup

ON/OFF

- **ON/OFF mode:**
 - Select **Timer** to power the recorder on and off as set specific times
 - Select **Ignition** to power the recorder on and off with the vehicle's ignition
 - Select **Ignition or Timer** to power the recorder on during both conditions
- **Shutdown Delay:** Enter the amount of time, in seconds, that the recorder will wait to shut down after the vehicle's ignition has been turned off
- **Shutdown Record:** Enter the amount of time, in seconds, that the recorder will continue to record after the vehicle's ignition has been turned off
- **Timer From:** Enter the exact times each day the recorder powers up and powers down when using the Timer ON/OFF mode
- **Monitor mode:**
 - Select **Automatic Power Up** to turn the touch screen monitor on automatically with the recorder
 - Select **Auto-Standby** to leave the touch screen monitor in standby mode (*must be touched to activate*) when the recorder is powered on

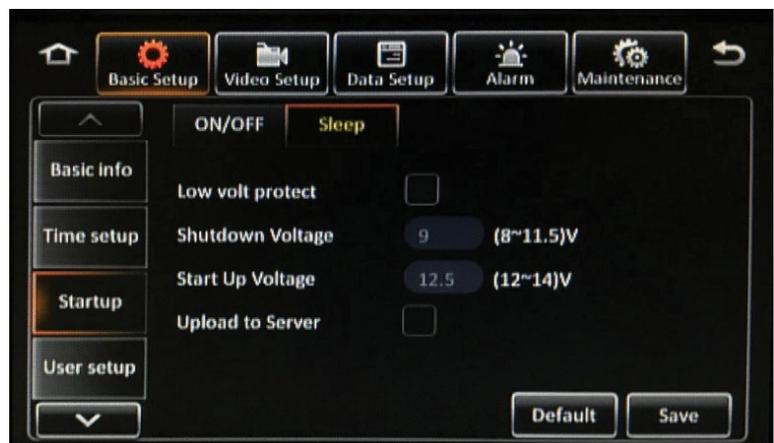
Then tap the **Save** button.



Sleep

- **Low volt protect:** Select this option to automatically shut down the recorder when the power it receives drops below the specified voltage
- **Shutdown Voltage:** Enter the minimum voltage, in volts, that the recorder can receive before it automatically disconnects from the DVMS PRO server or shuts down
- **Start Up Voltage:** Enter the minimum voltage, in volts, that the recorder must be receiving before starting up
- **Upload to Server:** Select this option to allow the recorder to continue to upload data to a DVMS PRO server while under voltage protection

Then tap the **Save** button.

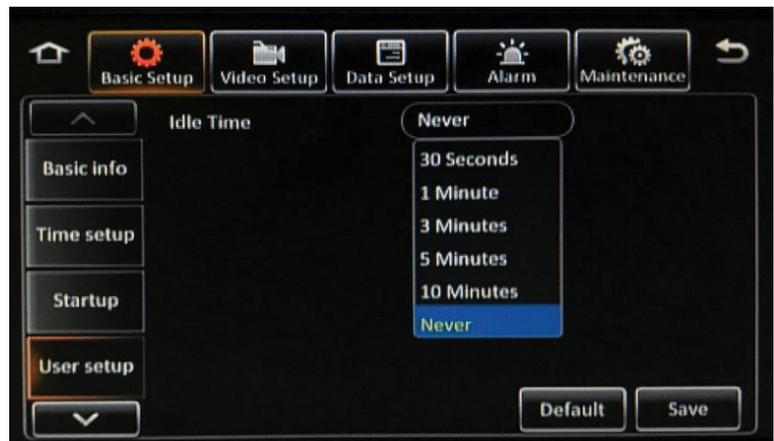


User Setup

Idle Time

Select the number of minutes after no activity that the touch screen monitor automatically exits a Menu and displays the live camera views. Select **Never** to keep this function disabled.

Then tap the **Save** button.



Network

Local

- **DHCP mode:** Select this option to have the recorder automatically receive an IP address and associated information from the network it is attempting to communicate with
- **Static IP:** If the checkbox is checked, device will be considered as static device
- **IP address:** Enter a Static IP address for the recorder
- **Subnet mask:** Enter a static subnet mask for the recorder
- **Gateway:** Enter a static network gateway for the recorder
- **Auto get DNS:** Select this option to allow the recorder to receive DNS information automatically
- **Use following DNS:** Select this option to enter the DNS information manually
- **Preferred DNS server:** Enter the preferred primary DNS server address
- **Alternate DNS server:** Enter the secondary, alternate DNS server address

Then tap the **Save** button.



Ports

- **WEB port:** Enter the WEB port for the recorder if necessary

Then tap the **Save** button.

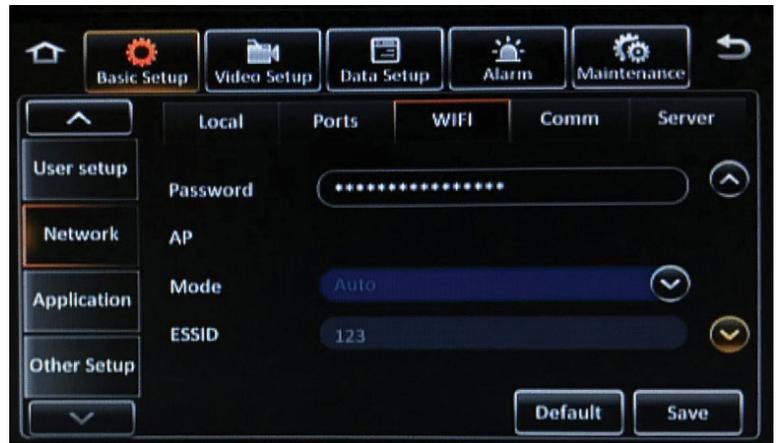


WiFi

Tap in the **Enable** field and select **Client** to enable the internal WiFi module. Enter the following information:

- **ESSID**
- **Encryption**
- **Password:** Enter an alphanumeric password
NOTE: This password will also be used when adding the ICOP PRO HD vehicle to the DVMS PRO software
- **Static IP:** If the checkbox is checked, device will be considered as static device
- **IP address:** Enter a Static IP address for the internal WiFi module
- **Subnet mask:** Enter a static subnet mask for the internal WiFi module
- **Gateway:** Enter a static network gateway for the internal WiFi module

Then tap the **Save** button.



Comm

External Cell Modem
Under Development



Server

Select a Center Server to configure from the dropdown menu. Multiple servers/configurations can be saved. To add a new server, tap the **Add** button. To activate a server, select the **Enable** box option and enter the following information:

- **Protocol type:** Select N9M
 - **Enable network:** Select Local
 - **Register server IP:** Enter the DVMS PRO server IP address
 - **Register server port:** Default port is 5556
 - **Media server IP:** Enter the DVMS PRO server IP address
 - **Media server port:** Default port is 5556
- NOTE:** The Register Server IP address and the Media Server IP address MUST be the same IP address of the server hosting the DVMS PRO software.

Then tap the **Save** button.



Application

FTP Server

Select **FTP Enable** to enable the FTP server option, which allows you to log into the recorder as an FTP server with an external PC, as well as allows snapshots to be uploaded to the FTP (See *Snap Setting under Data Setup for more information*).

Enter the following information about the FTP server:

- Server
- Port
- User name
- Password

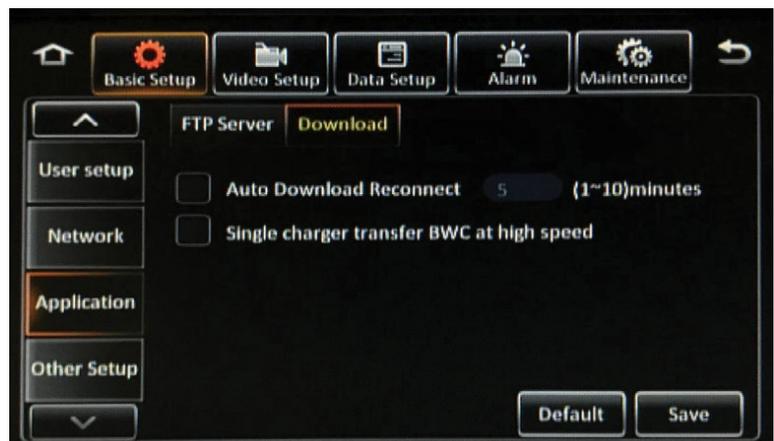
Then tap the **Save** button.



Download

- **Auto Download Reconnect:** Select this option to enable the recorder to reconnect automatically if a download is interrupted; enter the time to wait to retry (*between 1 and 10 minutes*).

Then tap the **Save** button.



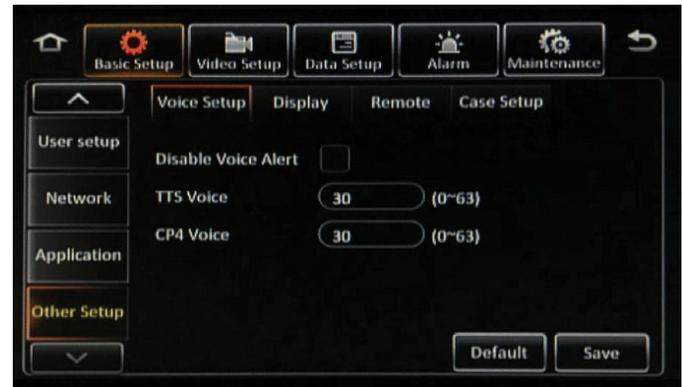
Other Setup

Voice Setup

The Voice Setup menu configures the voice commands that are sounded when certain events happen.

- **Disable Voice Alert:** Select this option to turn off all voice notifications
- **TTS Voice and CP4 Voice:** Enter a volume level, between 0 and 63 decibels, that the voice notifications are sounded through the touch screen monitor

Then tap the **Save** button.

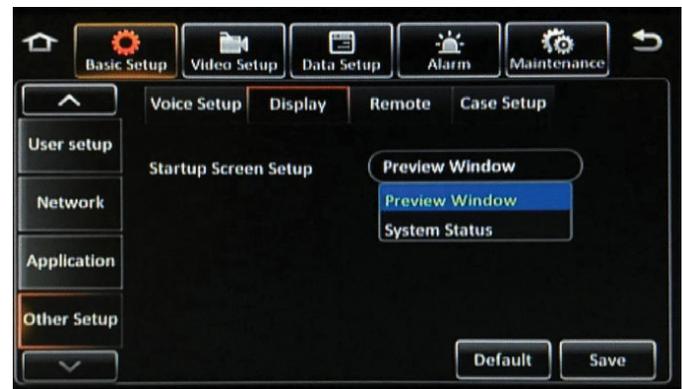


Display

Startup Screen Setup:

- **Preview Window:** Select this option to display live camera views on the touch screen monitor upon system startup
- **System Status:** Select this option to display the system status screen on the touch screen monitor upon system startup

Then tap the **Save** button.



Remote

F2 Alarm Auto Download: Select this option to enable automatic event downloading using the F2 button on the recorder's remote control. A USB flash drive must be inserted into the USB port on the front panel of the recorder.

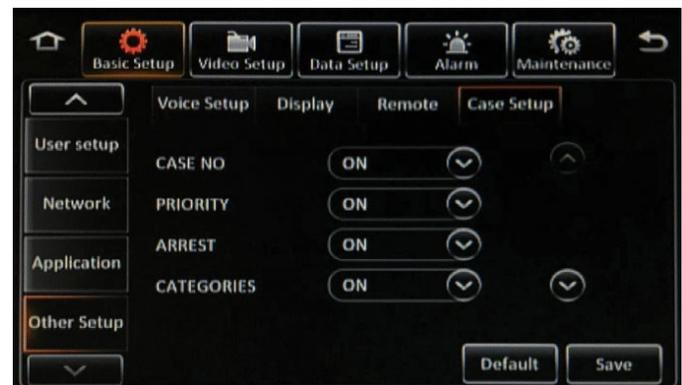
Then tap the **Save** button.



Case Setup

Select ON or OFF to turn on or off any of the Case Setup items listed in the menu.

Then tap the **Save** button.



Video Setup

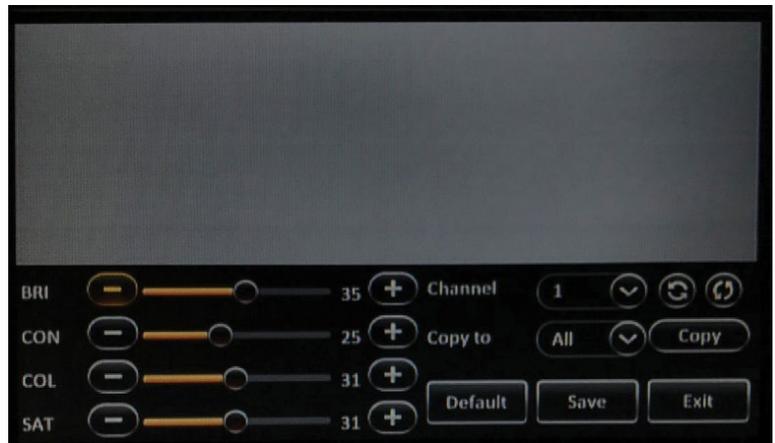
The Video Setup menus configure how video is displayed and recorded.

Live View

Cam Views

- **Preview Audio:** Select this option to enable audio while viewing the Live View
- **Image Setup:** Tap the Setup button to display the Image Setup screen
 - Select a channel in the Channel field and adjust the following settings:
 - **BRI (Brightness)**
 - **CON (Contrast)**
 - **COL (Color)**
 - **SAT (Saturation)**
 - Then tap the **Save** button
 - Select a channel in the **Copy to** field and tap **Copy** to automatically copy the same settings to additional channels
- **Margins:** Tap the Setup button to display the Margins Setup screen.
 - Adjust the space from the edge of the image to the edge of the monitor display to your satisfaction
 - Then tap the **Save** button
- **Startup screen:** Select the format of the Live View that appears automatically when the recorder starts up (Single/2-Split/Quad)
- **Channel:** Select which channels appear in the Live View

Then tap the **Save** button.



Auto Loop

The Auto Loop tab allows you to program the Live View to automatically cycle through different camera channels. The screen will cycle in the order listed on the monitor.

To enable the Auto Loop feature, select the **Auto Loop Enable** option at the bottom of the screen. Tap the Add Screen button, or tap an existing screen's **Setup** icon to display the **Edit Screen**, and enter the following:

- **Mode:** Select 1x1 (*one channel*), or 2x2 (*four channels*) for each screen that loops
- **Layout:** Select the channels that appear in each screen section
- **Duration:** Select the duration, in seconds, each screen is displayed in Auto Loop.

When finished, tap the **OK** button

Then tap the **Save** button.



Live OSD

Select which pieces of metadata appear overlaid on the on-screen display (OSD) of the Live View:

- Date/Time
- Speed
- Vehicle plate
- GPS
- Alarm
- Channel name
- Vehicle num
- Acc Info

Then tap the **Save** button.



Position Setup

Tap this option to adjust the position of the previously selected metadata options on the screen. Tap and drag each metadata description to the desired location. Select **Default** to return the metadata to its default position.

Then tap the **Save** button to return to the Live OSD menu screen.

Then tap the **Save** button.



WMIC

WIRELESS MIC MUTE ENABLE: Select this option to allow users to mute audio from the wireless mics.

Then tap the **Save** button.

When enabled:

- Single press the REC button on the wireless mic to mute audio.
- To activate recording from the wireless mic, double press the REC button.

The windshield camera contains a front status LED to indicate to an officer outside of the vehicle that video recording has been initiated. A red blinking status LED indicates video only is recording. A solid red status LED indicates both video and audio is recording.



Record

General

- **System:** Select either NTSC or PAL video type
- **Overwrite:** Select the option of when the primary storage device begins to overwrite:
 - **By days:** Enter the time, between 1 and 31 days, when the recorder will begin to overwrite the oldest data
 - **By capacity:** Once the primary storage device reaches capacity, new recordings will begin to overwrite the oldest data
 - **Never:** Select this option to prevent the primary storage device from overwriting
- **Lock duration:** Enter the time, between 1 and 31 days, that recorded files are locked, during which time the recorder is prevented from recording over them
- **Pre-recording:** Select this option to enable pre-recording, and select an amount of time duration for pre-alarm recording; This is the amount of time included in a video recording from before the alarm was activated.
- **Mirror SD Over:** Select the option of when the SD card used for mirror recording begins to overwrite
- **Recorded to Server:** Under development
- **link-record:** Under development

Then tap the **Save** button.



Main stream

- **Channel:** Select a channel in the Channel field to configure
- **Channel Name:** Enter a name for the selected channel that will appear overlaid on recorded video
- **Enable:** Select this option to enable the channel; Deselect this option to disable the channel
- **Resolution:** Select the recording video resolution (resolutions ranked in ascending order, "W" indicates "wide")
- **Record mode:** Select either **CONTINUOUS** (continuous recording begins when the system is powered on); **ALARM ONLY** (records only when an alarm is activated); or **BACK/ALARM** (background continuous recording in a lower resolution, higher resolution recording when an alarm is activated)
- **Normal Frame Rate:** Select between 1 and 30 frames per second
- **Normal Quality (bit rate):** Select between 1 and 8, 1 being the best, for continuous recorded video quality
- **Alarm Frame Rate:** Select between 1 and 30 frames per second
- **Alarm Quality (bit rate):** Select between 1 and 8, 1 being the best, to adjust the video quality when an alarm is activated
- **I Frame:** Under development
- **Audio:** Select this option to enable audio recording on the selected channel
- **Encode mode:** Select CBR or VBR video encoding

Then tap the **Save** button.

After completing all of the fields for one camera, the same configuration can be copied to other cameras. Select a camera in the Copy to field and tap the Copy button.

Then tap the **Save** button.



Dual Stream

The Dual Stream page configures a dual stream recording setup, when the recorder records one video stream to one storage device, and a secondary stream can be configured to stream to another storage device or viewed live in DVMS PRO.

- **Record storage:** Select the storage device to which the second stream of data is recorded
- **Record mode:** Select from the following record mode options:
 - **Mirror record** (*records identical data*)
 - **Alarm backup** (*records alarms only*)
 - **None** (*does not record dual stream*)
 - **Sub-Record** (*provides stream for Live View in DVMS PRO, see Sub-Record Setup below*)
- **Channels:** Select which channels are recorded in the second stream

Then tap the **Save** button.



Sub-Record Setup

Tap the **Setup** button next to the Record mode field after selecting Sub-Record to display the Setup screen to configure each individual channel to be displayed in the Live View of DVMS PRO

- **Channel**
- **Enable**
- **Audio**
- **Resolution**
- **Frame rate**
- **Quality**

After completing all of the fields for one camera, the same configuration can be copied to other cameras. Select a camera in the **Copy to** field and tap the **Copy** button.

Tap the **OK** button.

Then tap the **Save** button.



OSD

Select which pieces of metadata appear overlaid on recorded video:

- Date/Time
- Speed
- Vehicle Plate
- GPS
- Channel Name
- Vehicle Num

Then tap the **Save** button.

Where the metadata appears overlaid relative to its position on the screen can be adjusted. Tap the **Setup** button to display the position screen. Use your finger to drag the metadata to the location where you want it to appear.

Then tap the **Save** button.



IPC setup

The IPC Setup tab allows you to configure a number of IP camera networks. (This menu is only configurable when an IP camera is connected to the recorder.)

- Select **Enable** for the channel you would like to use.
- Tap the **Search** icon (magnifying glass) to search for available IP cameras.
The IPC search screen appears
- In the IPC search screen, select an available camera and tap **OK**
- Tap on the **Setup** icon for each network
The Network Setup screen appears
- Enter the following for each network:
 - **Channel**
 - **Protocol Type**
 - **IP address**
 - **Port**
 - **Username**
 - **Password**

41H series IP cameras: leave the Username and Password fields blank.

Gen 3 (60-32000X [Exterior] and 60-20000X [Interior]): enter Admin in the username field and 1234 in the password field.

45 and 46 series IP cameras: enter admin in the username field and SV123456 in the password field.

Note - Gen 2, Gen 3, 45 and 46 series IP cameras require an assigned IP address. Suggested IP schemes to assign the IP cameras:

10.100.100.101
10.100.100.102
10.100.100.103
10.100.100.104

Tap the last three digits of the **Local address** to enter these numbers manually.

Then tap the **Save** button.



PTZ

The PTZ tab allows you to configure the capabilities of any optional PTZ (pan-tilt-zoom) equipped cameras attached. For each attached PTZ camera, configure the following:

- **Channel Enable:** Select this option to enable PTZ functions
- **Operate:** Select Serial, N9N, or ONVIF
- **Protocol Type:** Select Pelco-D or Pelco-P
- **Addr:** Enter the numbered address of the camera
- **Test:** Tap this button after configuration to display a PTZ control menu to ensure operation is correct

Then tap the **Save** button.



Data Setup

The Data Setup menus configure how the recorder communicates with external devices.

General

Sensor

The Sensor tab configures the sensor inputs connected to the sensor harness

- **Sensor number:** Select a sensor in the Sensor number field to configure
- **Sensor name:** Enter an alphanumeric name for the selected sensor
- **OSD Name:** Enter an alphanumeric name for the selected sensor that will appear on the on-screen display when the sensor is active
- **People counting:** Under development

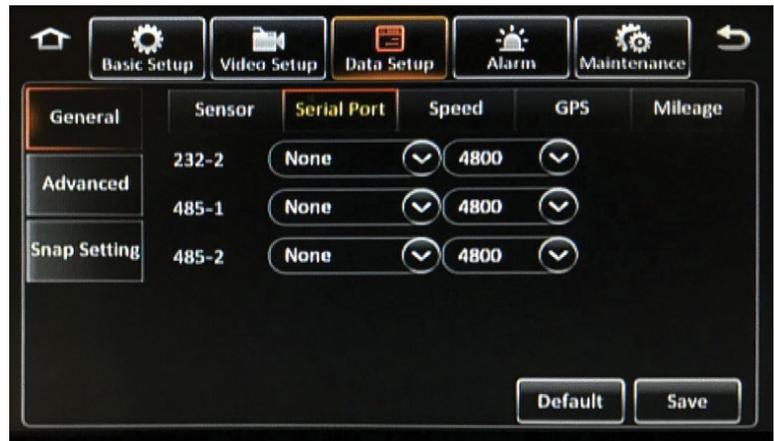
Then tap the **Save** button.



Serial Port

The Serial Port tab configures which devices are connected to the serial port. For each connection, select which device is connected (*None, Extend, Control Panel, 485 BUS, External GPS, 3Axis ACC, Green Driver, PTZ*) and the frequency for each.

Then tap the **Save** button.



Speed

- **Unit:** Select speed to be calculated in MPH or KM/H
- **Source:** Select the source of the vehicle's speed data.
 - **Satellite:** GPS
 - **Pulse:** Under development

Then tap the **Save** button.



GPS

- Navigation mode: *Under development*



Mileage

The Mileage tab tracks the total miles the recorder has been installed in the vehicle.



Advanced

CAN: Under development



Snap Setting

The Snap Setting menu configures the snapshot feature. Still image snapshots can be taken at set intervals, instead of full motion video, in order to conserve storage space in certain applications.

Time Snap

Use the **Time snap** menu to configure snapshots to be taken during set intervals.

- Select the **Time snap** option at the bottom of the screen
- Then tap the **Add** button to add a time period
- Enter a **Start time** and End time for the time period
- Then tap the **Setup** icon to configure each channel (*see below*)
- Then tap the **Save** button



Trigger Snap

Use the **Trigger snap** menu to configure snapshots to be taken during alarms or manually. Tap the **Setup** button under each option to configure each channel (*see below*).

Then tap the **Save** button.



Snap Setting Setup Screen

- **Channel:** Select a channel in the Channel field to configure
- **Snap enable:** Select this option to enable snapshots to be taken for the selected channel
- **Resolution:** Select the resolution of the snapshots
- **Quality:** Select the quality of the snapshots, with 1 being the best
- **Upload type:** Select FTP (*uploads the snapshots to the FTP client*)
- **Snap numbers:** Select the number of snapshots (*between 1 and 3*) taken at each interval
- **Interval:** Select the interval that snapshots are taken (*from every 5 seconds to every 3600 seconds*)

Then tap the **OK** button.

Then tap the **Save** button.

After completing all of the fields for one camera, the same configuration can be copied to other cameras. Select a camera in the **Copy to** field and tap the **Copy** button. Then tap the **OK** button.

Then tap the **Save** button.



Alarm

The Alarm menus configure the various alarms and their triggers.

Base

Speed Alarm

- Select the **Overspeed** option to enable speed alarms. An alarm is triggered when the configured speed is exceeded.
- **Alarm type:** Select either **Sensor** (*When a Sensor alarm is triggered, it is recorded in video as metadata only*), or **Event** (*When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included*).
- **Trigger:** Tap the **Setup** button to configure the parameters specific to this type of alarm (see *Trigger Setup* below).
- **Linkage:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm (see *Linkage Setup* below).

Then tap the **Save** button.



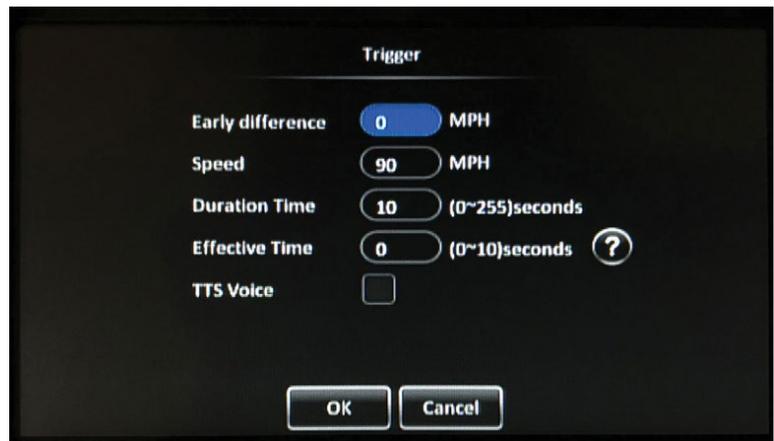
Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Speed Alarm.

- **Early difference:** Enter the MPH difference from the MPH entered in the Speed field that the vehicle can deviate from before an alarm occurs
- **Speed:** Enter the maximum speed in MPH that can be obtained by the vehicle before an alarm is triggered
- **Duration Time:** Enter the time (*between 0 and 255 seconds*) that the alarm records
- **Effective Time:** Enter the time (*between 0 and 10 seconds*) that the alarm is effective (*select the Question Mark icon for more details*)
- **TTS Voice:** Select this option to enable voice alerts that will announce the alarm through the monitor speaker when triggered

Then tap the **OK** button.

Then tap the **Save** button.



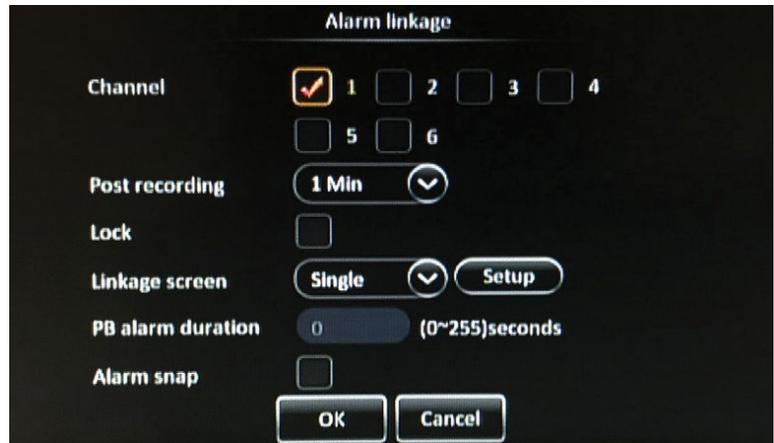
Linkage Setup

Tap the **Setup** button under Linkage to display the setup screen to configure the recording, monitor display, and additional options specific to the Speed Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time (*between 1 and 30 minutes*) the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the recorder from overwriting it
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active, either None, Single, or Quad; Tap the Setup button to select the channels that appear in each screen section and the Duration (*between 1 and 300 seconds*) that it appears on the monitor
- **PB alarm duration:** Enter the amount of time (*between 0 and 255 seconds*) that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.



Panel Alarm

- Select the **Panic** option to enable panel alarms. An alarm is triggered when the 'REC' button on the touch screen monitor is pressed.
- **Alarm type:** Select either **Sensor** (When a Sensor alarm is triggered, it is recorded in video as metadata only), or **Event** (When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).
- **Trigger:** Tap the Setup button to configure the parameters specific to this type of alarm (see Trigger Setup below)
- **Linkage:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm (see Linkage Setup below)

Then tap the **Save** button.



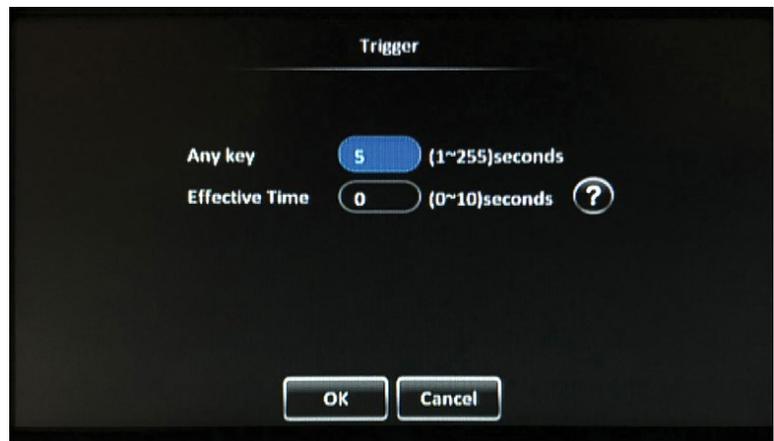
Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Panel Alarm.

- **Any key:** Enter a time (between 1 and 255 seconds) that the 'REC' button on the touch screen monitor must be pressed and held down for to trigger the alarm
- **Effective Time:** Enter the time (between 0 and 10 seconds) that the alarm is effective (select the Question Mark icon for more details)

Then tap the **OK** button.

Then tap the **Save** button.



Linkage Setup

Tap the **Setup** button under Linkage to display the setup screen to configure the recording, monitor display, and additional options specific to the Panel Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time (*between 1 and 30 minutes*) the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the recorder from overwriting it
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active, either None, Single, or Quad; Tap the Setup button to select the channels that appear in each screen section and the Duration (*between 1 and 300 seconds*) that it appears on the monitor
- **PB alarm duration:** Enter the amount of time (*between 0 and 255 seconds*) that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.



IO Alarm

- Select **Enable** next to each sensor to enable IO alarms. An alarm is triggered when the sensor is activated
- **Alarm type:** Select from the following options:
 - **OFF:** Disables any OSD display
 - **RECORD:** Recording/alarm starts when any sensor in this mode is detected and stops when sensor input is removed
 - **START RECORD:** Recording/alarm begins when any sensor with this setting is detected and continues when sensor input is removed (STOP button on the monitor shall be the only way to stop recording when triggered by the sensor with this setting)
 - **DISPLAY ONLY:** Sensor input does not start or stop recording, only displays text on OSD and is stored in metadata (if DVR is recording at the time)
- **Trigger:** Tap the Setup button to configure the parameters specific to this type of alarm for each selected sensor (*see Trigger Setup below*)
- **Linkage:** Tap the Setup button to configure the recording, monitor display and additional options specific to this type of alarm for each selected sensor (*see Linkage Setup below*)

Then tap the **Save** button.

After completing all of the fields for one sensor, the same configuration can be copied to other sensors. In the **Copy** field, select which sensor's configuration to copy. In the **To** field, select which sensor to apply the copied configuration to, and tap the **Copy** button. Then tap the Save button.



Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the IO Alarm for each selected sensor.

- **Trigger:** Select if the sensor sends a High or Low signal
- **Effective Time:** Enter the time (*between 0 and 10 seconds*) that the alarm is effective (*select the Question Mark icon for more details*)

Then tap the **OK** button.

Then tap the **Save** button.



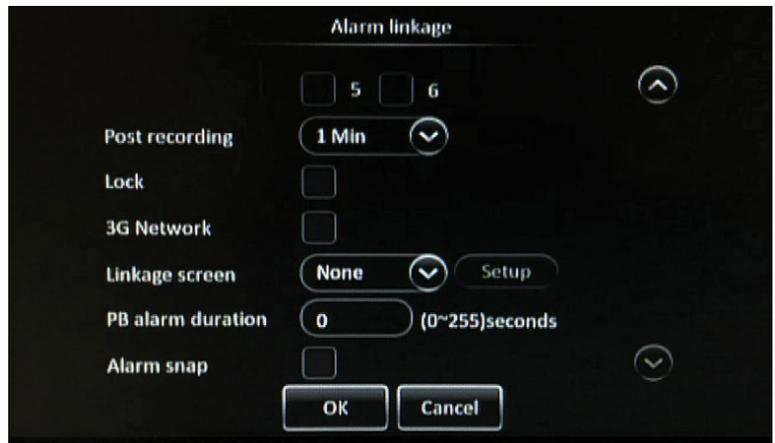
Linkage Setup

Tap the **Setup** button under Linkage to display the setup screen to configure the recording, monitor display, and additional options specific to the IO Alarm for each selected sensor.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time (*between 1 and 30 minutes*) the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the recorder from overwriting it
- **3G Network:** **DO NOT USE**
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active, either None, Single, or Quad; Tap the Setup button to select the channels that appear in each screen section and the Duration (*between 1 and 300 seconds*) that it appears on the monitor
- **PB alarm duration:** Enter the amount of time (*between 0 and 255 seconds*) that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.



HDD/SD

- Select the **Low Space** option to enable HDD/SD alarms. An alarm is triggered when the selected storage device is approaching low available space
- **Alarm type:** Select either **Sensor** (*When a Sensor alarm is triggered, it is recorded in video as metadata only*), or **Event** (*When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included*).
- **Trigger:** Tap the Setup button to configure the parameters specific to this type of alarm (see *Trigger Setup below*)

Then tap the **Save** button.



Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the HDD/SD alarms .

Select the storage device you want to configure the HDD/SD alarm for (only the storage device(s) present in the recorder will be displayed in the setup screen to configure).

Enter a percentage (between 0% and 100%) of capacity that the selected storage device must obtain to trigger an alarm when approaching low available space.

Then tap the **OK** button.

Then tap the **Save** button.



Video

Video Loss

- Select the **Video Loss** option to enable video loss alarms. An alarm is triggered whenever video loss or camera failure is detected.
- **Alarm type:** Select either **Sensor** (*When a Sensor alarm is triggered, it is recorded in video as metadata only*), or **Event** (*When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included*).
- **Trigger:** Tap the **Setup** button to configure the parameters specific to this type of alarm (*see Trigger Setup below*)
- **Linkage:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm (*see Linkage Setup below*)



Then tap the **Save** button.

Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Video Loss Alarm.

- **Channel:** Select which channels the Video Loss alarm will be applied to
- **Effective Time:** Enter the time (*between 0 and 10 seconds*) that the alarm is effective (*select the Question Mark icon for more details*)

Then tap the **OK** button.

Then tap the **Save** button.



Linkage Setup

Tap the **Setup** button under Linkage to display the setup screen to configure the recording, monitor display, and additional options specific to the Video Loss Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time (between 1 and 30 minutes) the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the recorder from overwriting it
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active, either None, Single, or Quad; Tap the Setup button to select the channels that appear in each screen section and the Duration (between 1 and 300 seconds) that it appears on the monitor
- **PB alarm duration:** Enter the amount of time (between 0 and 255 seconds) that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.



Motion

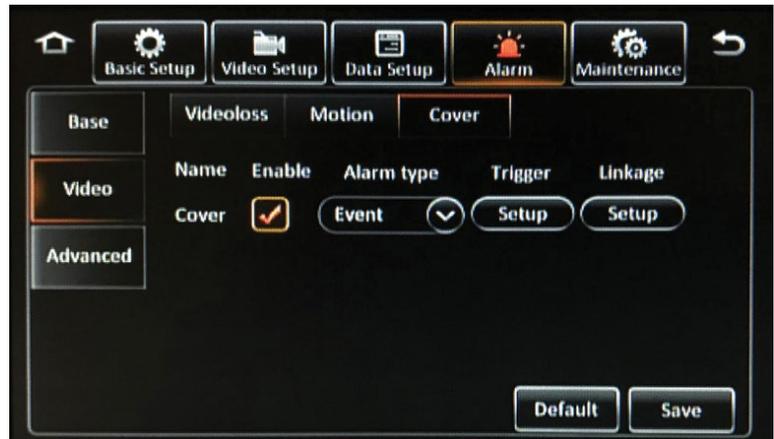
Select the **Motion** option to trigger alarms when motion is detected in the selected camera channels. During configuration, select the portion of the field of view in which motion will trigger an alarm.



Cover

- Select the **Cover** option to enable cover alarms. An alarm is triggered when it is detected that a camera lens may have been covered or otherwise obstructed.
- **Alarm type:** Select either **Sensor** (When a Sensor alarm is triggered, it is recorded in video as metadata only), or **Event** (When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).
- **Trigger:** Tap the **Setup** button to configure the parameters specific to this type of alarm (see *Trigger Setup below*)
- **Linkage:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm (see *Linkage Setup below*)

Then tap the **Save** button.



Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Cover Alarm.

- **Channel:** Select which channels the Cover alarm will be applied to
- **Sensitivity:** Select either High, Middle, or Low sensitivity
- **Duration Time:** Enter the time (between 0 and 255 seconds) that the alarm records
- **Delay Time:** Enter the time (between 0 and 255 seconds) that must occur when the camera lens is covered or otherwise obstructed before triggering the alarm
- **Effective Time:** Enter the time (between 0 and 10 seconds) that the alarm is effective (select the Question Mark icon for more details)

Then tap the **OK** button.

Then tap the **Save** button.



Linkage Setup

Tap the **Setup** button under Linkage to display the setup screen to configure the recording, monitor display, and additional options specific to the Cover Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time (*between 1 and 30 minutes*) the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the recorder from overwriting it
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active, either None, Single, or Quad; tap the Setup button to select the channels that appear in each screen section and the Duration (*between 1 and 300 seconds*) that it appears on the monitor
- **PB alarm duration:** Enter the amount of time (*between 0 and 255 seconds*) that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.



Advanced

ACC Alarm

- Select the **ACC alarm** option to enable ACC alarms. An alarm is triggered due to shock detected by an accelerometer
- **Alarm type:** Select either **Sensor** (When a Sensor alarm is triggered, it is recorded in video as metadata only), or **Event** (When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).
- **Trigger:** Tap the **Setup** button to configure the parameters specific to this type of alarm (see *Trigger Setup below*)
- **Linkage:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm (see *Linkage Setup below*)
- **Calibrate:** Tap the **Calibrate** button while the recorder is still to reset the accelerometer readings to 0.0.



Then tap the **Save** button.

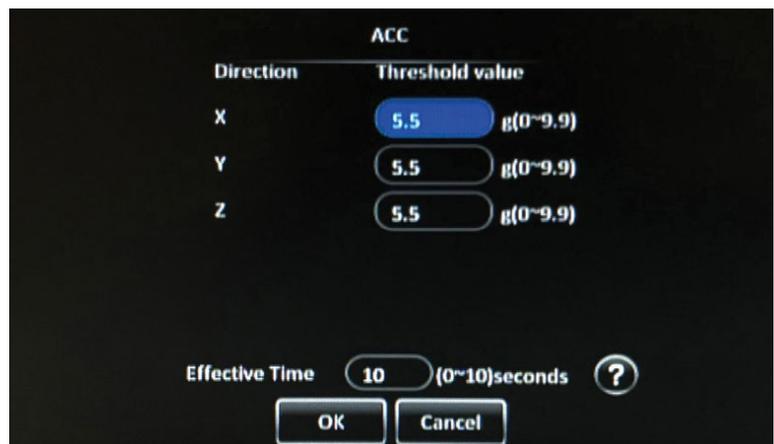
Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the ACC Alarm.

- Tap in each of the **X**, **Y**, and **Z** fields and enter a threshold (between 0 and 9.9 Gs) for each direction which when exceeded triggers the alarm
- **Effective Time:** Enter the time (between 0 and 10 seconds) that the alarm is effective (select the Question Mark icon for more details)

Then tap the **OK** button.

Then tap the **Save** button.



Linkage Setup

Tap the **Setup** button under Linkage to display the setup screen to configure the recording, monitor display, and additional options specific to the ACC Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time (*between 1 and 30 minutes*) the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the recorder from overwriting it
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active, either None, Single, or Quad; tap the Setup button to select the channels that appear in each screen section and the Duration (*between 1 and 300 seconds*) that it appears on the monitor
- **PB alarm duration:** Enter the amount of time (*between 0 and 255 seconds*) that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.



Geo Fence

Select either **Area I/O Alarm Switch**, **Line I/O Alarm Switch**, or both options, to activate an alarm when the indicated geo fence is breached.

For the **Line I/O Alarm Switch**, select **Off Route Violation Alarm**, **Driving time Alarm**, **Line Geo Fence speeding alarm** options. Geo fences can be configured in the DVMS PRO software.



Maintenance

The Maintenance menus provide access to useful tasks, such as configuration file import/export, data export, and storage device formatting.

Config

Insert a USB flash drive into the USB port on the front panel of the recorder and tap **Export** to download a configuration file of the recorder. The configuration files contains all of the settings on the recorder and can be copied to additional recorders. The file saves as "config" on the root directory of the flash drive.

To upload a configuration file to a recorder, insert a USB flash drive with a configuration file present on the root directory, into the USB port on the front panel of the recorder and tap **Import**.



Category

Insert a USB flash drive into the USB port on the front panel of the recorder and tap **Export** to download categories of the recorder. Categories created in DVMS PRO can be copied to additional recorders. The file saves as "category info" on the root directory of the flash drive.

To upload a category file to a recorder, insert a USB flash drive with a category file present on the root directory, into the USB port on the front panel of the recorder and tap **Import**.



File Data

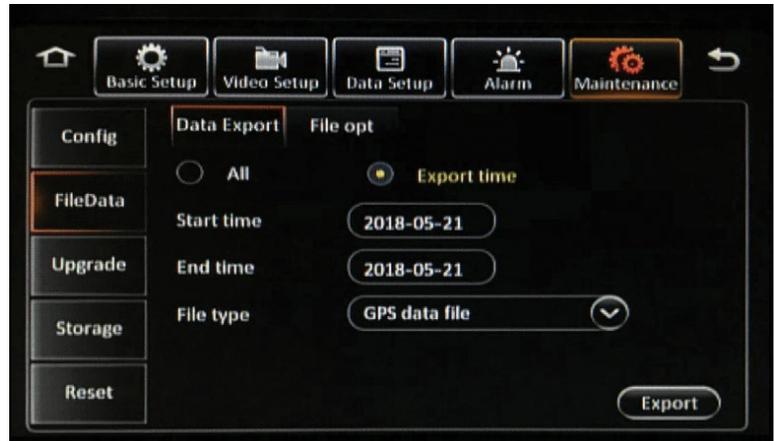
The File Data menu allows you to export certain data from the recorder for analysis.

Data Export

Select **All** to export all of the selected data available, or select **Export time** to request only data in a specific time range. Enter a **Start Time** and **End Time**, then under **File Type** select from the following:

- GPS data file
- Vehicle info file
- ACC info file
- Can info file (*under development*)
- Dial info file
- Captured picture
- Alarm log
- Operation log
- Custom data file

To export the selected data, tap the **Export** button.



File Opt

The File Opt tab is under development at this time.



Upgrade

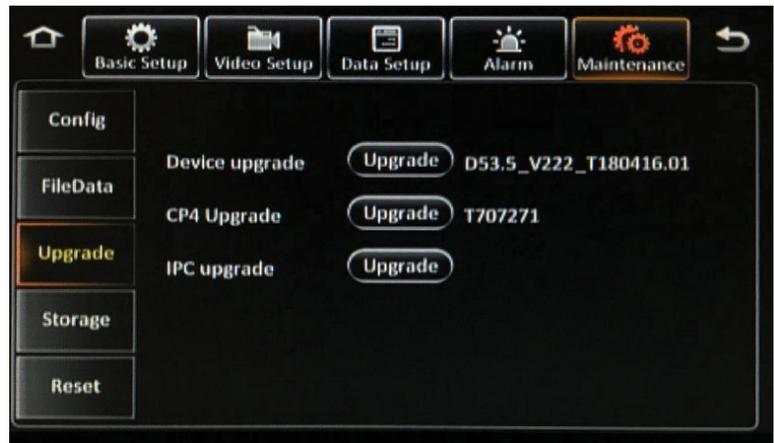
The Upgrade menu allows you to update the recorder's firmware.

Note: Any previously exported configuration files will need to be re-exported after updating the firmware.

1. Obtain the firmware upgraded file from Safety Vision technical support.
2. On an otherwise blank USB flash drive, place the firmware upgrade file in a folder titled **upgrade** in the root directory.
3. Insert the flash drive into the USB port on the front panel of the recorder and tap the **Upgrade** icon next to **Device upgrade** (to upgrade the recorder's firmware), **CP4 Upgrade** (to upgrade the touch screen monitor's firmware), or **IPC upgrade** (to upgrade any connected IP cameras).

The firmware upgrade process begins automatically.

Make sure recorder maintains constant power while upgrading firmware.



Storage

The Storage menu is used to format storage devices connected to the recorder and displays the ratio of free and total space available for each.

To format a device, tap **Format**.

Formatting a device erases all data, including recorded video. Use with caution.



Reset

The Reset menu allows you to reset the recorder's entire configuration to the factory default settings. To reset all settings, tap the **Default** button.

Resetting a recorder erases all settings. Use with caution.

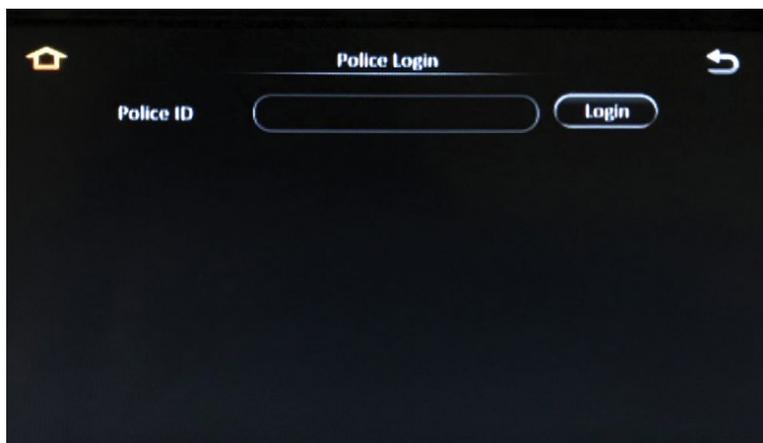
Tap the **Reboot** button to reboot the recorder.



Officer Login

Tap the **Officer Login** icon on the Main Menu. The Officer Login menu allows you to log in multiple officers simultaneously, if more than one officer is assigned to the vehicle.

Tap the **Login** icon to display the log in window. Tap in the **User name** and **Password** fields to display the onscreen keyboard, and enter your username and password. Then tap **Login**.

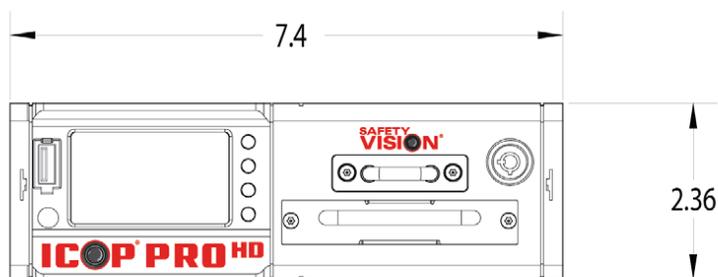
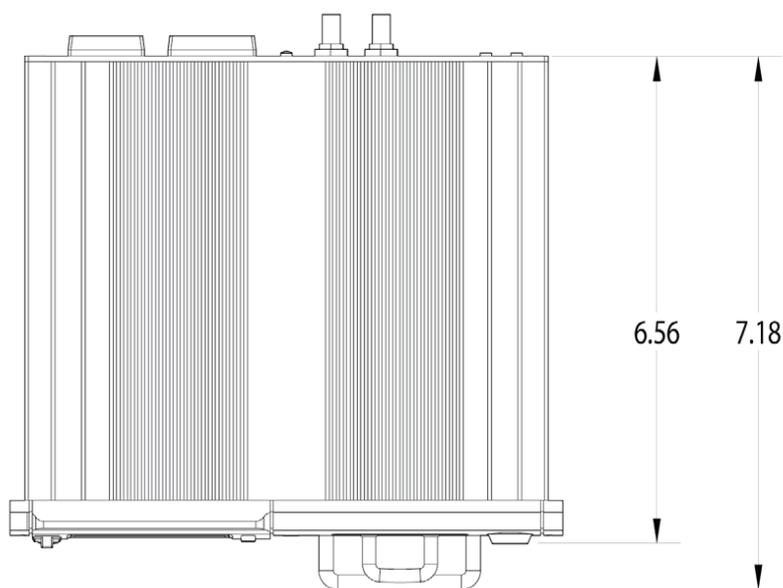


Appendix A: Specifications

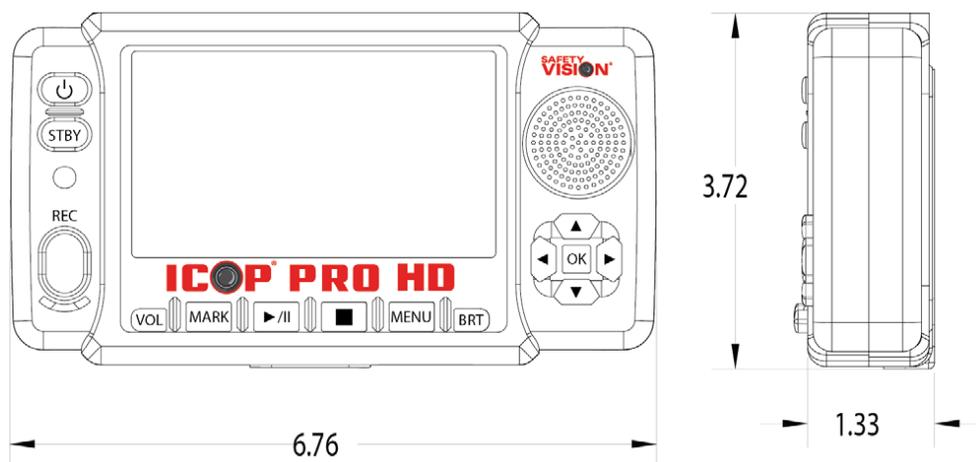
| SPECIFICATIONS | |
|--------------------------|---|
| Part No. ICPPROHVR | |
| Operating System | Embedded Real-Time Linux |
| Form Factor | 1 DIN |
| On-Screen Display | Coordinate, alarm, temperature, acceleration, voltage, software version, network status, officer information, real-time status of the vehicle |
| Audio/Video Inputs | NTSC: 4 channels 720p at 30fps AHD or 4 channel 1080p at 15fps AHD PAL: 4 channels 720p at 25fps AHD or 4 channel 1080p at 12fps AHD + 1 X IP camera up to 1080p at 30fps |
| Audio/Video Compression | H.264 / ADPCM |
| Resolution | 1080p, 720p, D1, WD1, HD1, WCIF, CIF |
| Image Quality | 8 levels |
| Primary Storage | 1 × SSD (1 TB max) |
| Mirror Storage | Mirror recording (with wrapping) to secondary 64 GB SD card (256 GB max) SD card canister holds 2 SD cards |
| Recording Modes | Alarm only (Sensor (light bar, weapon rack, etc) trigger, speed, acceleration, video loss, temperature), background/alarm continuous |
| Pre-event Recording | Configurable up to 60 minutes |
| Post-event Recording | Configurable up to 30 minutes |
| Network Interfaces | 802.11b/g/n (41ANT required), 1 × RJ45 LAN port |
| Accelerometer | 3-Axis |
| Interfaces | 1 × RS232, 1 × RS485, 1 × USB 2.0, 1 × GPS |
| Sensors | 8 in, programmable function for DVR activation, peripheral interface, and external power relay control |
| Power Input | 8 ~ 36 V DC |
| FALA (SUPER) Capacitance | To ensure that the minimum system and storage time of the product < 8s, so that the data can be successfully rescued. Initial charging time of the capacitor should not be < 30s. |
| Operating Temperature | -40° F to approx. 158° F (-40° C to approx. 70° C) |
| Dimensions (w × h × d) | 7.40 × 2.36 × 7.18 in (187.96 × 59.94 × 182.37 mm) |
| UPS | Supported |
| Certifications | CE, FCC, ISO7637, MIL-STD-810F, ROHS |

Appendix B: Dimensions

ICOP PRO HD HVR



Power Control Monitor



FCC Compliance Statement

NOTE

This device has been tested and found to comply with the limits for a *Class A digital device*, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for the compliance could void the user's authority to operate the equipment.

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